Online ISSN : 2249-4618
Print ISSN : 0975-5888
DOI : 10.17406/GJMRA

Global Journal

of Medical Research: E

Gynecology & Obstetrics

Living with the Dead

52 Cases of Uterovaginal Prolapse

Highlights

Cell Carcinoma of Fallopian Tube

Analytical Study of Cervical Cytology

Discovering Thoughts, Inventing Future

VOLUME 20 ISSUE 7 VERSION 1.0

Global Journal of Medical Research: E
Gynecology and Obstetrics

Global Journal of Medical Research: E
Gynecology and Obstetrics

Volume 20 Issue 7 (Ver. 1.0)

Open Association of Research Society

Incorporation No.: 0423089
License No.: 42125/022010/1186
Registration No.: 430374
Import-Export Code: 1109007027
Employer Identification Number (EIN):
USA Tax ID: 98-0673427

Global Journals Inc.

*(A Delaware USA Incorporation with "Good Standing"; **Reg. Number: 0423089**)*

Sponsors: Open Association of Research Society
Open Scientific Standards

Publisher's Headquarters office

Global Journals® Headquarters
945th Concord Streets,
Framingham Massachusetts Pin: 01701,
United States of America
USA Toll Free: +001-888-839-7392
USA Toll Free Fax: +001-888-839-7392

Offset Typesetting

Global Journals Incorporated
2nd, Lansdowne, Lansdowne Rd., Croydon-Surrey,
Pin: CR9 2ER, United Kingdom

Packaging & Continental Dispatching

Global Journals Pvt Ltd
E-3130 Sudama Nagar, Near Gopur Square,
Indore, M.P., Pin:452009, India

Find a correspondence nodal officer near you

To find nodal officer of your country, please email us at *local@globaljournals.org*

eContacts

Press Inquiries: *press@globaljournals.org*
Investor Inquiries: *investors@globaljournals.org*
Technical Support: *technology@globaljournals.org*
Media & Releases: *media@globaljournals.org*

Pricing (Excluding Air Parcel Charges):

Yearly Subscription (Personal & Institutional)
250 USD (B/W) & 350 USD (Color)

Editorial Board

Global Journal of Medical Research

Dr. Han-Xiang Deng

MD., Ph.D
Associate Professor and Research Department
Division of Neuromuscular Medicine
Davee Department of Neurology and Clinical Neurosciences
Northwestern University Feinberg School of Medicine
Web: neurology.northwestern.edu/faculty/deng.html

Dr. Pina C. Sanelli

Associate Professor of Radiology
Associate Professor of Public Health
Weill Cornell Medical College
Associate Attending Radiologist
NewYork-Presbyterian Hospital
MRI, MRA, CT, and CTA
Neuroradiology and Diagnostic Radiology
M.D., State University of New York at Buffalo,
School of Medicine and Biomedical Sciences
Web: weillcornell.org/pinasanelli/

Dr. Roberto Sanchez

Associate Professor
Department of Structural and Chemical Biology
Mount Sinai School of Medicine
Ph.D., The Rockefeller University
Web: mountsinai.org/

Dr. Michael R. Rudnick

M.D., FACP
Associate Professor of Medicine
Chief, Renal Electrolyte and Hypertension Division (PMC)
Penn Medicine, University of Pennsylvania
Presbyterian Medical Center, Philadelphia
Nephrology and Internal Medicine
Certified by the American Board of Internal Medicine
Web: uphs.upenn.edu/

Dr. Feng Feng

Boston University
Microbiology
72 East Concord Street R702
Duke University
United States of America

Dr. Seung-Yup Ku

M.D., Ph.D., Seoul National University Medical College,
Seoul, Korea Department of Obstetrics and Gynecology
Seoul National University Hospital, Seoul, Korea

Dr. Hrushikesh Aphale

MDS- Orthodontics and Dentofacial Orthopedics.
Fellow- World Federation of Orthodontist, USA.

Santhosh Kumar

Reader, Department of Periodontology,
Manipal University, Manipal

Gaurav Singhal

Master of Tropical Veterinary Sciences, currently pursuing Ph.D in Medicine

Dr. Aarti Garg

Bachelor of Dental Surgery (B.D.S.) M.D.S. in Pedodontics and Preventive Dentistr Pursuing Phd in Dentistry

Sabreena Safuan

Ph.D (Pathology) MSc (Molecular Pathology and Toxicology) BSc (Biomedicine)

Getahun Asebe

Veterinary medicine, Infectious diseases, Veterinary Public health, Animal Science

Dr. Suraj Agarwal

Bachelor of dental Surgery Master of dental Surgery in Oromaxillofacial Radiology.
Diploma in Forensic Science & Oodntology

Osama Alali

PhD in Orthodontics, Department of Orthodontics, School of Dentistry, University of Damascus. Damascus, Syria. 2013 Masters Degree in Orthodontics.

Prabudh Goel

MCh (Pediatric Surgery, Gold Medalist), FISPU, FICS-IS

Raouf Hajji

MD, Specialty Assistant Professor in Internal Medicine

Surekha Damineni

Ph.D with Post Doctoral in Cancer Genetics

Arundhati Biswas

MBBS, MS (General Surgery), FCPS, MCh, DNB (Neurosurgery)

Rui Pedro Pereira de Almeida

Ph.D Student in Health Sciences program, MSc in Quality Management in Healthcare Facilities

Dr. Sunanda Sharma

B.V.Sc.& AH, M.V.Sc (Animal Reproduction, Obstetrics & gynaecology), Ph.D.(Animal Reproduction, Obstetrics & gynaecology)

Shahanawaz SD

Master of Physiotherapy in Neurology PhD- Pursuing in Neuro Physiotherapy Master of Physiotherapy in Hospital Management

Dr. Shabana Naz Shah

PhD. in Pharmaceutical Chemistry

Vaishnavi V.K Vedam

Master of dental surgery oral pathology

Tariq Aziz

PhD Biotechnology in Progress

Contents of the Issue

i. Copyright Notice
ii. Editorial Board Members
iii. Chief Author and Dean
iv. Contents of the Issue

1. A Study of 52 Cases of Uterovaginal Prolapse by New Procedure Sacro-Spinous Colpopexy in Rajshahi Bangladesh. *1-11*
2. Primary Transitional Cell Carcinoma of Fallopian Tube: A Rare Entity with Review of Literature. *13-16*
3. Living with the Dead. *17-21*
4. A Prospective Analytical Study of Cervical Cytology in Pregnant Women Attending a Tertiary Hospital in Pondicherry. *23-32*
5. Study of Maternal and Fetal Outcome in COVID-19 Pregnancies. *33-38*

v. Fellows
vi. Auxiliary Memberships
vii. Preferred Author Guidelines
viii. Index

Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 7 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

A Study of 52 Cases of Uterovaginal Prolapse by New Procedure Sacro-Spinous Colpopexy in Rajshahi Bangladesh

By Monira Najnin & Munima Haque

BRAC University

Abstract- The analysis intended to evaluate urogenital and defecatory signs, and life conditions ahead of and following a sacrospinous Colpopexy/hysteropexy for uterovaginal prolapse. To prevent recurrence of uterine prolapse and to maintain adequate vaginal length, a new surgical procedure Sacro-spinous Colpopexy was introduced in Rajshahi, Bangladesh. Fifty-two women with indicative uterovaginal prolapse were cured using sacrospinous Colpopexy/ hysteropexy. Ahead of and following surgery, urogenital and defecatory signs and life conditions were evaluated with a authenticated question form. Data were obtained using a Standardized questionnaires forms which were completed by the patients. Questionnaires were about their basic demographic information, complaint history, patient obstetric history, gynecological history, patient examination history, patient operations performed, and patient post-operations follow-up. Anatomical results were evaluated by examining the pelvic ahead of and following surgery. The average return sequel timing was 6 months. Grades of all areas of urogenital and defecatory signs, fecal incontinency and pain improved substantially. Additionally, on all areas there is betterment of life and no main difficulties were confronted.

Keywords: *uterovaginal prolapse, vaginal hysterectomy, sacrospinous colpopexy/hysteropexy, life quality.*

GJMR-E Classification: *NLMC Code: WJ 190*

Strictly as per the compliance and regulations of:

A Study of 52 Cases of Uterovaginal Prolapse by New Procedure Sacro-Spinous Colpopexy in Rajshahi Bangladesh

Monira Najnin [α] & Munima Haque [σ]

Abstract- The analysis intended to evaluate urogenital and defecatory signs, and life conditions ahead of and following a sacrospinous Colpopexy/hysteropexy for uterovaginal prolapse. To prevent recurrence of uterine prolapse and to maintain adequate vaginal length, a new surgical procedure Sacro-spinous Colpopexy was introduced in Rajshahi, Bangladesh. Fifty-two women with indicative uterovaginal prolapse were cured using sacrospinous Colpopexy/ hysteropexy. Ahead of and following surgery, urogenital and defecatory signs and life conditions were evaluated with a authenticated question form. Data were obtained using a Standardized questionnaires forms which were completed by the patients. Questionnaires were about their basic demographic information, complaint history, patient obstetric history, gynecological history, patient examination history, patient operations performed, and patient post-operations follow-up. Anatomical results were evaluated by examining the pelvic ahead of and following surgery. The average return sequel timing was 6 months. Grades of all areas of urogenital and defecatory signs, fecal incontinency and pain improved substantially. Additionally, on all areas there is betterment of life and no main difficulties were confronted.

Keywords: uterovaginal prolapse, vaginal hysterectomy, sacrospinous colpopexy/hysteropexy, life quality.

I. Introduction

For the last few eras, it has been observed from multiple observations that sacrospinous ligament fixation is a successful surgical technique to rectify post-hysterectomy vaginal vault prolapse [1, 2]. As it has attested its efficiency in vaginal vault prolapse operation, it can be utilized as a principal procedure to rectify descensus uteri, which is called sacrospinous hysteropexy. The anatomical result and difficulty amount of this surgery was elaborated in some studies, however, did not concentrate on urogenital signs and life quality proceeding sacrospinous Colpopexy/ hysteropexy [3–8]. Same research group in a former investigation, found that Sacrospinous Colpopexy/ hysteropexy is a favorable procedure for the modification of descensus uteri [9]. But, the average follow-up of the observation was comparatively brief, the postoperative anatomical conditions were obtained from the patients' medical files, and deviations inurogenital signs related to the anatomical results were not evaluated. This study analyzed the fulfillment, difficulties, urogenital warning signs, and life quality in a women faction proceeding a sacrospinous colpopexy [10].

Recently for obtaining the best surgical management of auterine descent, numerous vaginal and abdominal procedures have been illustrated. For a vaginal vault prolapse, the sacrospinous ligament fixation has established to be an efficient management [11]. The sacrospinous ligament fixation can additionally be achieved as major cure for a uterine descent, a procedure named as 'sacrospinous hysteropexy'. This technique has been labelled in females who desired to conserve the uterus to hold on to fertility [12, 13]. Numerous research works have illustrated that the sacrospinous hysteropexyis anatomically effective and secure and the majority of females are greatly contented regarding this technique [14–20]. Consequence in these analyses was primarily evaluated by anatomical end-results, and most of these investigations did not appraise urogenital signs and life quality with authenticated survey forms. Calculating this functional result before and after surgery was one of the suggestions for upcoming investigation from a current publication [21]. The primary goal of this analysis was to evaluate urogenital and defecatory symptoms and life conditions pre and post sacrospinous hysteropexy. Further, the anatomical results were evaluated [22].

Pelvic organ prolapse is a key health concern which can accelerate in the upcoming years because of increasing life expectancy. Richardson documented in 1989 about a method called sacrospinous hysteropexy which is utilized for auterine descent where the uterus can be conserved [23]. Currently it cannot be verified whether removing the uterus is essential or directs to improved outcomes. From numerous research it has been observed that sacrospinous hysteropexy is anatomically effective and secure, and maximum ladies are very fulfilled with this technique [23–28]. In about three nonrandomized research studies, the sacrospinous hysteropexy was contrasted with a vaginal hysterectomy relating toanatomical results [26–28]. The methods were equivalently applicable in terms of

Author α: Rajshahi Medical College and Hospital, Rajshahi, Bangladesh.
Author σ: Department of Mathematics and Natural Sciences (MNS), BRAC University, Dhaka, Bangladesh.
Author σ: Relevant Science and Technology Society (RSTS), Dhaka, Bangladesh. e-mails: ext.munima.haque@bracu.ac.bd, munima.haque@gmail.com

anatomical results. Time of recovery following a sacrospinous hysteropexy has been observed to be substantially smaller in contrast to vaginal hysterectomy in a retrospective analysis [26]. The one research analysis which was done related to sacrospinous hysteropexy and vaginal hysterectomy concentrated mainly on sexual performance 6-monthspreceding operation [29] [30].

Pelvic Organ Prolapse (POP) is the plunge of one or more of the pelvic organs. Anterior vaginal wall prolapse consists ofthe urethra (cystocele, urethrocele) or/and bladder. Apical prolapse consists of post-hysterectomy vaginal cuff or the uterus. Posterior vaginal wall prolapsed involves the rectum although can further consists of the large and small bowel (enterocele, rectocele). Women could prolapse with one or more than one kind.POP is a commonplace health issue involving nearly 40% of parous women who are more than 50years old [31]. The risk for lifetime of female to go through operation for the cure of POP is around 11%, and30% of these females will require further operation owing to the prolapse reappearance [32]. The risk of POP elevates along with the frequency of births by vagina and is greater in elder and overweight women. POP has substantial adverse influences on a woman's livelihood conditions, varying from bodily distress, sexual and mental ailments to professional and public restrictions.

Nowadays in the Netherlands vaginal hysterectomy is the major management procedure for patients having symptomatic uterine prolapse. The incidence of post-hysterectomy vaginal vault prolapsed fluctuates from 0.2 to 12% [33-35]. Hysterectomy for pelvicorgan prolapse seems to be a specific risk factor. The possibility of prolapse mending following hysterectomy was 4.7times greater in females whose primary hysterectomy was designated for pelvic organ prolapse and 8 times greater if prolapse grade 2 or more existed before surgery [36].

In numerous analysis studies, it has been presented that sacrospinous fixation for uterine or vaginal vault prolapse is a secure and successful remedy [37-41]. The technique has some difficulties. Buttock pain on the side where the sacrospinous sutures have been performed takes place in around 10 to 15% of the female which usually settles in days and within months. Three analysis relating vaginal hysterectomy to sacrospinous fixation revealed no substantial deviation in anatomical result, whereas hospital staying duration was brief, suffered less aching, and had swift recovery in the later faction [42-44]. However, until now only one randomized analysis relating both techniques is accessible. This multi-facility pilot experiment associated vaginal hysterectomy to sacrospinous fixation for 66 female with uterine descent and having a greater rate of reappearances following one year in patients with sacrospinous fixation (27% vs.3% reappearance in patients having vaginal hysterectomy)[45][46].

A cross-sectional study of 50 to 79 years age females registered in the Women's Health Initiative designated that 41% of these women had some type of POP at starting point, while Samuelsson et al. described that 31% of female in overall, and 44% of parous women specifically had POP in another analysis on Swedish women [47, 48]. Parity displayed the sturdiest link with risk of compelling operation for POP (4:1 for women having1 child and 8.4:1 for women having 2 children in contrastto nonparous women) of all risk factors that were assessed by Mantet al. In this analysis less than 1% of prolapse happened in nulliparous female [49]. Samuelsson et al. described that the highly notice able risk factors of etiologic significance for POP were pelvic floor muscle strength, parity, and age having greater birth weight additionally linked to elevated prevalence of POP amongst parous women [48] [50].

Sacrospinous colpopexy has been utilized for ages in the cure of uterovaginal prolapse [51-53]. Furthermore, numerous studies have described the effective utilization of sacrospinous fixation for remedy of uterine prolapse with preservation of the uterus.[54-56]Effective/fruitful pregnancies and vaginal deliveries following sacrospinous fixation have also been described[55][57].

Rising anxiety regarding the difficulty of pelvic support defects has been come upon recently and numerous surgeries have been promoted for the cure. The sacrospinous ligament fixation of the vaginal cuff is extensively believed as the regular cure for the restoration of vault prolapse and is progressively conducted simultaneously in patients during hysterectomy with acute uterovaginal prolapse [58]. The vaginal method to the pelvic floor faults permits the accompanying restoration of cystocele, rectocele, enterocele, urethrocele, and perineal body flaws that are linked with vault or uterine prolapsed in over 75% of patients [59]. Hanging the vaginal vault to the exact sacrospinous ligament in the duration of hysterectomy necessitates additional operation time, not exceeding15 to 20 minutes, and is deemed as a reliable technique if implemented correctly [60] [61].

II. Materials and Methods

a) Patients

The surgical operations were performed from April 2016 to October 2016 and involved 52 women patients with genital prolapse. All patients obtained an identical, authenticated survey form in 2016 that consisted of basic demographic information, complaint history, patient obstetric history, gynecological history, patient examination history, patient operations performed, and patient post-operations follow-up.

b) Surgery/Sacro-spinous Colpopexy surgical procedure

At first all the patients under went vaginal hysterectomy. Then anterior Colpopexy was done. During post Colpoperineoraphy after vaginal hysterectomy, high ligation of enterocele sac was performed. In the duration of colpoperineorraphy, rectovaginal space was attained following parting of the vagina from rectum. Right rectal pillar was perforated with a finger, and right coccygeus muscle and right sacrospinous ligament were recognized utilizing ischial spine as marker. Two sacrospinous colpopexy stitches 1-1.5 cm apart were done around 2.5-3 cm medial to ischial spine with polypropylene no.1 on round body needle from below upwards. These were taken in the form of a pulley and fixed to vaginal apex 2,3. All patients were being operated using the PDS-1 thread. At the end of surgery, sufficient vault suspension was confirmed, and vagina was packed for 24 hours. On the 6th postoperative day patients were evaluated and discharged. They were followed up after 1 month.

Nine patients went through vault repair operations. Vault repair consists of three operations performed consecutively: Anterior colporrhaphy, Posterior colporrhaphy and then Sacro-spinous colpopexy.

c) Measurements/Data collection

The Study is conducted with the data which was collected from the patient history questionnaire forms supplied to the patients undergoing uterine prolapse diagnosis and consequent surgery using the new surgical procedure Sacro-spinous Colpopexy. In addition, follow ups were done on these patients after completion of the surgery. The analysis of this paper comprises the information of 52patients of various diagnosis aged 35-55 years. Excel software (version 16.0) was used for doing the statistical analysis of the patient data.

For this analysis, some demographic characteristics of patients i.e. Age (various categories from 35-74years), living place (urban, rural), religion (Muslim, Hindu, Christian, Buddhism, others) are considered as outcomes variables. Obstetric history was taken on patients present with complaints, parity, age of first delivery, mode of deliveries (No. of spontaneous vaginal deliveries, No. of assisted vaginal deliveries, No. of caesarean sections) as outcome variables. In addition, Patient Gynecological history are taken on post-menopausal info, sexually active/not, other operations as outcome variables. Patient Examination history included variables as uterus present, weight, height, blood pressure (BP), Stage of prolapse (POP-Q staging, most distal portion of prolapse), Investigations. Various types of operations were taken as variables Patient Operations performed (Vaginal hysterectomy, Anterior colporrhaphy, Posterior colporrhaphy, Sacro-spinous colpopexy, Sacro-spinous hysteropexy). In post-operation follow-up, outcome variables were taken as Total vaginal length (cm), vaginal caliber, Any evidence of recurrence of prolapse (Cystocoele, Rectocoele, Uterine descent, Vault descent), existence or nonexistence of any warning signs, complains were noted. Also, existence or nonexistence of urinary incontinence, any bowel symptoms, Lump protruding from vagina were monitored during the post-operation follow-up.

III. Results

There were 52 women that went under Sacro-spinous Colpopexy surgery. All of them completed the standardized questionnaire forms. Basic demographic information is listed in table-1. Age of the patient was categorized from 35-74 years in 5 years interval. Amongst the patients, maximum patients were of40 to 64years of age. Amongst them, 46 (88.5%) patients are residing in rural areas, while the rest 6 of them (11.5%) lived in urban area. Amongst the patients, 48 (92.3%) are Muslims, and 4 (7.7%) are Hindu. There were none found from Christian, Buddhist or other religions.

Table 1: Key demographics on the respondents ($n = 52$)

	Category	Numbers	Percent %
Age (years)	35-39	3	5.8
	40-44	6	11.5
	45-49	13	25
	50-54	12	23.1
	55-59	7	13.5
	60-64	6	11.5
	65-69	3	5.8
	70-74	2	3.8
Living place	Urban	6	11.5
	Rural	46	88.5
Religion	Muslim	48	92.3
	Hindu	4	7.7
	Christian	0	-
	Buddhist	0	-
	Others	0	-

Complaint history are recorded in table 2. Lump protruding from vagina symptom were present in 52 (100%) of the patients. Two patients had it for 1-11 months, while 19 of them had this medical condition for 1-5 year, 7 for 6-10 years, 3 patients for 16-20 years and 2 for 21-25 years. Vaginal pain/discomfort were present in 13 (25%) of the patients. Nine of them for 1-6 months duration and 4 of the patients were having this symptom for 1-5 years period. Urinary incontinence was present in 7 (13.5%) of the patients. Two of them had this complaint for 3 months while 5 had for 1-12 years duration. Sixteen (30.8%) of the patients had difficulty passing urine, while the duration ranged from months leading up to 15 years. Nine (17.3%) of the patients under study had difficulty passing bowel motion and the symptom ranged from 1 month to 5 years. Vaginal discharge or bleeding were present in 18 (34.6%) of the patients: 8 of them had for 1-11 months, 6 had it for 1-5 years, 3 for 6-10 years while 1 of them had this symptom for 11-15 years range.

Table 2: Patient complaint history

Presenting complaints	Percent % Yes	Percent % No	If yes, how long? (years)
Lump protruding from vagina	52 (100%)	0 (0%)	1-11 months: 2 1-5 years: 19 6-10 years: 19 11-15 years: 7 16-20 years: 3 21-25 years: 2
Vaginal pain/discomfort	13 (25.0%)	37 (71.2%)	1-6 months: 9 1-5 years: 4
Urinary incontinence	7 (13.5%)	42 (80.8%)	3 months: 2 1-12 years: 5
Difficulty passing urine	16 (30.8%)	34 (65.4%)	1-6 months: 5 1-5 years: 7 5-10 year: 3 11-15 years: 1
Difficulty passing bowel motion	9(17.3%)	41 (78.8%)	1-6 months: 4 1-5 years: 5
Vaginal discharge or bleeding	18 (34.6%)	34 (65.4%)	1-11 months: 8 1-5 years: 6 6-10 years: 3 11-15 years: 1

Patient Obstetric history are given in table 3. Of the patients, 6 (11.5%) of them had parity 2, 16 (30.8%) had parity 3, 8of them (15.4%) had parity 4, 7 of them (13.5%) had parity 5, and others ranging from 1-4 number of patients had parity 1, 6-10. Age at first delivery was highest from women of 15-19 years (32 number of patients, 61.5%), while the lowest (1, 1.9%) from 25-29 years of age. All the patients under study had their first delivery within 10-29 years of age, none from 30-44-year ranges. From the category of mode of deliveries, no. of spontaneous deliveries was most for 3 (15 of them) while the lowest were from 1 and 9 deliveries (2 of the patients). No. of assisted vaginal deliveries were 3 for only 1 patient found under study. Number of caesarean sections were none amongst the patients in this study.

Table 3: Patient Obstetric history

Variables	Category	Number of patients	Percent %
Parity	1	2	3.8
	2	6	11.5
	3	16	30.8
	4	8	15.4
	5	7	13.5
	6	3	5.8
	7	4	7.7
	8	4	7.7
	9	1	1.9
	10	1	1.9
Age at first delivery	10-14	9	17.3
	15-19	32	61.5

	20-24 25-29 30-34 35-39 40-44	5 1 0 0 0	9.6 1.9 0 0 0
Mode of deliveries			
No. of spontaneous vaginal deliveries	0 1 2 3 4 5 6 7 8 9	- 2 6 15 8 7 3 4 4 2	0 3.8 11.5 28.8 15.4 13.5 5.8 7.7 7.7 3.8
No. of assisted vaginal deliveries	1 2 3 4 5	- - 1 - -	0 0 1.9 0 0
No. of caesarean sections	1 2 3 4 5	- - - - -	0 0 0 0 0

Patient Gynecological history are given in table 4.It was determined whether the patient was post-menopausal or not. Forty 40 (76.9%) patients were found to be post-menopausal. For those who were post-menopausal) specify age, their age of menopausal was noted and it fell between the range of 40-50 years. Five of the patients had surgical menopause. In case of sexual activity, if the patient responded to yes, then it was found if she had dyspareunia or not. Only 7 of the sexually active patients had dyspareunia, while 28 of them did not. Among the patients that were sexually inactive, 11 of them were widowed, 2 were divorced, while 15 were married. Twenty-one (21) patients responded to have previous operations: Total Abdominal Hysterectomy (TAH) 9 of them, 3 of patients mentioned to have Vaginal Hysterectomy (VH), while 14 patients had other previous operations (9 had BLTL, 3 had BL.SO and 2 of the patients had Cholecystectomy).

Table 4: Patient Gynecological history

Variables	Category	Number		Percent %	Yes (post-menopausal) specify age	Yes (Sexually active) Dyspareunia		No (Sexually active)		
Post-Menopausal	Yes No	40 12 (MC-R)		76.9 23.1	40-50 years: 21 >50 years: 9 Surgical menopause: 5	Yes	No	Widow	Divorced	Married
						7	28	11	2	15
Sexually active	Yes No	34 18								
Any previous operations	Yes 21 No31	TAH	VH	BLTL: 9 BL.SO: 3 Cholecystectomy:2						
		9	3							

- TAH- Total Abdominal Hysterectomy
- VH- Vaginal Hysterectomy
- BLTL- Bilateral Tubal Ligation
- BL.SO- Basic Life Support in Obstetrics
- Cholecystectomy-Surgical removal of gallbladder
- MC-R- Menstrual Cycle Regular
- UTI- Urinary Tract Infection

Patient Examination history are given in table 5.Of the 52 patients, 40 (76.9%) patients responded to having uterus present, while the rest (23.1%) do not. Eight (15.4%) patient weight ranged from 35-69 kgs, most patients 15 (28.8%) were in the weight range of 45-49 kgs, while the least 1 (1.9%) were of weight range65-69 kgs. Most of the patients weighted within 40-59 kgs. BP was within range of normal for most patients 49 of

them (94.2%). Stage of prolapse (POP-Q staging, most distal portion of prolapse): One patient (1.9%) was in stage 1, 2 (3.8%) were in stage 2, 15 (28.8%) were in stage 3, while 22(42.3%) in stage 4. Vault prolapse occurred in 11 (21.2%) of the patients, while 1 (1.9%) patient had Cervix 3 cm outside introitus.

Table 5: Patient Examination history

Variables	Category	Numbers	Percent %
Uterus present	Yes	40	76.9
	No	12	23.1
Weight (kgs)	35-39	2	3.8
	40-44	8	15.4
	45-49	15	28.8
	50-54	13	25.0
	55-59	10	19.2
	60-64	3	5.8
	65-69	1	1.9
BP	Hypertensive (>140/90)	3	5.8
	Normotensive	49	94.2
Stage of prolapse (POP-Q staging, most distal portion of prolapse)	Stage 1 (> 1 cm above hymen)	1	1.9
	Stage 2 (to +/- 1 cm of hymen)	2	3.8
	Stage 3 (> 1 cm below hymen)	15	28.8
	Stage 4 (complete vaginal eversion)	22	42.3
	Vault prolapse	11	21.2
	Cervix 3 cm outside introitus	1	1.9

Patient Operations performed are given in table 6.Amongst the patients, 32(61.5%) went through vaginal hysterectomy operation, 47 (90.4%) patients had Anterior colporrhaphy operations, 46 (88.5%) patients had Posterior colporrhaphy, 41 (78.8%) of them had Sacro-spinous Colpopexy, 8 (15.4%) of the patients had Sacro-spinous hysteropexy. None of the patients under study needed Abdominal sacro-spinous Colpopexy, Perineorraphy, Le Fort, Utero sacral sling, Abdominal hysterectomy, or other operations.

Table 6: Patient Operations performed.

Operations performed	Category	Numbers	Percent (%)
Vaginal hysterectomy	Yes	32	61.5
	No	20	38.5
Anterior colporrhaphy	Yes	47	90.4
	No	05	9.6
Posterior colporrhaphy	Yes	46	88.5
	No	06	11.5
Sacro-spinous colpopexy	Yes	41	78.8
	No	11	21.2
Sacro-spinous hysteropexy	Yes	8	15.4
	No	44	84.6

Patient Post-operations follow-up are given in table 7. In post operation follow-up, total vaginal length was 8 cm for 48 (92.3%) patients, 5 cm for 4 (7.7%) patients; no patients had between 5-8 cm, smaller than 5 cm or other categories. Vaginal caliber was narrow for 3 (5.8%), and normal for 49 (94.2%) patients. None of the patients had wide vagina. For indication of recurrence of prolapse, Cystocele was seen in 1 (1.9%) of the patients in stage 1, 3 (5.8%) of the patients in stage 2, none of the patients were in stages 3, and 4. Rectocele was seen in 2 patients in stage 2, none of the patients were in stages1, 3, or 4.Uterine descent and Vault descent recurrence were not seen in any of the patients. Cervical descent was found in 1 patient each for stage 2 and stage 3 recurrence. It was noted whether the patients were still showing symptoms. Amongst the operated patients, one patient was found to having one of the symptoms in each category: having the Bulge in vagina (1), Buttock pain (improving) in 1 patient, vagina problem short following original hysterectomy (1), and shortened vagina in 1 patient. 5 patients were sexually active, while 6 patients were not sexually active (was pre-op). Some patients showed complains as infected vaginal Haematoma postop-UTI (1), some pain after Micturation(1), dryness in vagina (1), some dyspareunia postop (3), vaginal pain (1), lower abdominal pain (3), atrophic vagina (1), Dyspareunia (1) and some stress-incontinence postop in (1) patient.

Table 7: Patient Post-operations follow-up

Variables	Category	Numbers	Percent (%)
Total vaginal length (cm)	8 5 Between 5-8 >5 Others	48 4 - - -	92.3 7.7
Vaginal calibre	Narrow Normal Wide	3 49 -	5.8 94.2
Any evidence of recurrence of prolapse		-	
Cystocele	Stage 1 Stage 2 Stage 3 Stage 4	1 3 - -	1.9 5.8
Rectocele	Stage 1 Stage 2 Stage 3 Stage 4	- 2 - -	3.8
Uterine descent	Stage 1 Stage 2 Stage 3 Stage 4	- - - -	
Vault descent	Stage 1 Stage 2 Stage 3 Stage 4	- - - -	
Cervical descent	Stage 1 Stage 2 Stage 3 Stage 4	- 1 1 -	1.9 1.9
Is the patient symptomatic?	Bulge in vagina Buttock pain (improving) Vagina prob short following original hysterectomy Shortened vagina Sexually active Not sexually active (was preop)	1 1 1 1 5 6	1.9 1.9 1.9 1.9 9.6 11.5
Any complains?	Infected vag. Haematoma postop-UTI Some pain after Micturation Dryness in vagina Some dyspareunia postop Vaginal pain lower abdominal pain Atrophic vagina Dyspareunia Stress-incontinence postop	1 1 1 3 1 3 1 1 1	1.9 1.9 1.9 5.8 1.9 5.8 1.9 1.9 1.9
Urinary incontinence	Yes 2 No 50	- -	3.8 96.2
Any bowel symptoms	Yes 2 No 50	- -	3.8 96.2
Lump protruding from vagina	Yes 2 (due to elongated cervix) No 50	- -	3.8 96.2

IV. Discussion

There are a couple of limitations in this study. First, there could be some selection bias in the collection of patients' attendances for gynecological inspection. Not all the patients were chosen, only the ones that qualified for this project. Second, there could be a sign bias. Women who picked particularly this operation as an alternative to the more usual vaginal hysterectomy possibly had high anticipations of this technique. This could have had affected their respond choices. Further, there can be a bias of the gynecologist who chose the females for the technique. Third, while an average 2 years of followup is acceptable, maybe some reappearances were not until now progressed in the duration of gynecological inspection or exploration of medical records. Nevertheless, females being cared for their recurrent prolapse were analyzedby6 months following primary operation. Fourth, this data on the revival time following operation were assembled in retrospect and patients can have problematic recall bias. Fifth, pad testing or urodynamics were not carried out following operation to verify urinary incontinency and detrusor hyperactivity. Still, these processes are identified for relating reasonably with the stated symptoms [62, 63] [64].

Vaginal vault prolapse is an unusual difficulty which can happen following any vaginal or abdominal hysterectomy [65,66]; however, larger life expectancy will establish an actual elevation of occurrence of this condition in the future. It is recommended that transvaginal sacrospinous fixation procedure could be applied as an addition to vaginal hysterectomy and mending for noticeable uterovaginal prolapse in the attendance of poor uterosacral and cardinal ligaments. The minimal illness and the brief timing needed for suitable anatomic partition into the proper pararectal space, conception and trans fixation of the sacrospinous ligament inspires the utilization of this technique as a precaution during vaginal hysterectomy in patients having acute uterovaginal prolapse [67].

In summary, sacrospinous fixation of the vaginal vault is a suitableprocedure for the remedy of vault prolapse, permitting instantaneous effortless restoration of coexistent cystocele, enterocele and rectocele. It could be utilized prophylactically in patients with acute uterovaginal prolapse, is linked by superior anatomic outcomes and subtle during operation illness. The supervision of stress incontinency in these patients frequently necessitates a retropubic or a united vaginoabdominal technique [68].

Hope for Life undertakes free Genital Prolapse surgery for low income women in rural communities. Genital Uterine Prolapse occurs when ligaments and pelvic floor muscles elongate and wear off, offering insufficient support for the uterus. The uterus then slides down into or extends exterior to the vagina. It is an extremely common ailment that, untreated, often has devastating consequences. It can lead to chronic backpain, urinary difficulty, sexual intercourse pain, and pregnancy complications. It impacts on the ability of women to carry out household chores and earn a living and to sustain a functioning public association. It dramatically alters the life quality of the concerned female. The psychosocial and physical changes in women suffering from this disability has been indicated to influence spouse bonds, and the society: often leading to social seclusion, marriage split-up, constraints on religious performance, and denial by their own families and acquaintances.[69].

V. Conclusion and Future Works

This work was performed in Rajshahi and is still an ongoing process. This same project is being sponsored in other parts of Bangladesh. In 2014-2015, there were 2,500 free operations performed by 15 Hope for Life surgeons. In 2017, there is expectation of this many patients to have a free operation by Hope for Life surgeons. If this project can be extended to all places in Bangladesh, then it can serve the whole population.

Because of their shyness, most of the patients do not inform their symptoms at an early stage. Also because of socio-economic background and also surrounding environment forces them not to come out and inform their symptoms to health care professionals. If it can be diagnosed and treated early, then these problems can mostly be prevented. There needs to be a door to door campaign regarding this for awareness in Bangladesh.

Acknowledgements

All the 52 patients were treated/surgery was performed free of charge and provided by DAK Foundation and project work with Glencoe for Hope for Life[70]. Dr. Najnin was trained by Dr. Barbara Hall. Thanks to also Dr. Jon Taylor for all accessories and support. Thanks to project director Anubha Rawet, country director Jahangir Alam and program manager Iftekhar.

References Références referencias

1. Carey MP, Slack MC (1994) Transvaginal sacrospinous colpopexy for vault and marked uterovaginal prolapse. Br J Obstet Gynaecol 101: 536–540.
2. Sze EH, Karram MM (1997) Transvaginal repair of vault prolapse: a review. Obstet Gynecol 89: 466–475.
3. Nieminen K, Huhtala H, Heinonen PH (2003) Anatomical and functional assessment and risk factors of recurrent prolapse after vaginal sacrospinous fixation. Acta Obstet Gynecol Scand 82:471–478.

4. Kovac SR, Cruikshank SH (1993) Successful pregnancies and vaginal deliveries after sacrospinous uterosacral fixation in five of nineteen patients. Am J Obstet Gynecol 168:1778–1786.
5. Rane A, Lim YN, Withey G, Muller R (2004) Magnetic resonance imaging findings following three different vaginal vault prolapse repair procedures: a randomised study. Aust NZ J Obstet Gynaecol 44:135–139.
6. Sze EH, Meranus J, Kohli N, Miklos JR, Karram MM (2001) Vaginal configuration on MRI after abdominal sacrocolpopexy and sacrospinous ligament suspension. Int Urogynecol J Pelvic Floor Dysfunct 12: 375–379.
7. Hefni MA, El-Toukhy TA (2006) Long-term outcome of vaginal sacrospinous colpopexy for marked uterovaginal and vault prolapse. Eur J Obstet Gynecol Reprod Biol 127: 257–263.
8. Hefni MA, El Toukhy TA, Bhaumik J, Katsimanis E (2003) Sacrospinous cervicocolpopexy with uterine conservation for prolapse in elderly women: An evolving concept. Am J Obstet Gynecol 188: 645–650.
9. Van Brummen HJ, van de Pol G, Aalders CIM, Heintz APM, van der Vaart CH (2003) Sacrospinous hysteropexy compared to vaginal hysterectomy as primary surgical treatment for a descensus uteri: effects on urinary symptoms. Int Urogynecol J 14:350–355.
10. Int Urogynecol J (2007) 18:1271–1276. The effectiveness of the sacrospinous hysteropexy for the primary treatment of uterovaginal prolapse. Viviane Dietz & Joyce de Jong & Marieke Huisman & Steven Schraffordt Koops & Peter Heintz & Huub van der Vaart.
11. Beer M, Kuhn A (2005) Surgical techniques for vault prolapse: a review of the literature. Eur J Obstet Gynecol Reprod Biol 119 (2):144–155.
12. Kovac SR, Cruikshank SH (1993) Successful pregnancies and vaginal deliveries after sacrospinous uterosacral fixation in five of nineteen patients. Am J Obstet Gynecol 168:1778–1786.
13. Richardson DA, Scotti RJ, Ostergard DR (1998) Surgical management of uterine prolapse in young women. J Reprod Med 34(6):388–392.
14. van Brummen HJ, van de PG, Aalders CI, Heintz AP, van der Vaart CH (2003) Sacrospinous hysteropexy compared to vaginal hysterectomy as primary surgical treatment for a descensus uteri: effects on urinary symptoms. Int Urogynecol J Pelvic Floor Dysfunct 14:350–355.
15. Allahdin S, Herd D, Reid BA (2005) 25 Sacrospinous ligament fixation procedures in a district general hospital: our experience. J Obstet Gynecol 25(4):361–363.
16. Hefni MA, El-Toukhy TA (2006) Long-term outcome of vaginal sacrospinous colpopexy for marked uterovaginal and vault prolapse. Eur J Obstet Gynecol Reprod Biol 127(2):257–263.
17. Diwan A, Rardin CR, Kohli N (2004) Uterine preservation during surgery for uterovaginal prolapse: a review. Int Urogynecol J 15:286–292.
18. Hefni MA, El Toukhy TA, Bhaumik J, Katsimanis E (2003) Sacrospinous cervicocolpopexy with uterine conservation for prolapse in elderly women: an evolving concept. AJOG 188 (3):645–650.
19. Dietz V, de Jong J, Huisman M, Schraffordt Koops S, Heintz P, van der Vaart H (2007) The effectiveness of the sacrospinous hysteropexy for the primary treatment of uterovaginal prolapse. Int Urogynecol J Pelvic Floor Dysfunct (in press).
20. Maher CF, Cary MP, Slack MC, Murray CJ, Milligan M, Schluter P (2001) Uterine preservation or hysterectomy at sacrospinous colpopexy for uterovaginal prolapse? Int Urogynecol J 12: 381–385.
21. Morgan DM, Rogers MAM, Huebner M, Wei JT, DeLancy JO (2007) Heterogeneity in anatomic outcome of sacrospinous ligament fixation for prolapse. Obstet Gynecol 109(6):1424–1433.
22. Viviane Dietz & Marieke Huisman & Joyce M. de Jong & Peter M. Heintz & Carl H. van der Vaart. (2008) Functional outcome after sacrospinous hysteropexy for uterine descensus. Int Urogynecol J 19:747–752.
23. Richardson DA, Scotti RJ, Ostergard DR (1989) Surgical management of uterine prolapse in young women. J Reprod. Med 34(6):388–392.
24. Dietz V, de Jong J, Huisman M, Schraffordt Koops S, Heintz P, van der Vaart H (2007) The effectiveness of the sacrospinous hysteropexy for the treatment of uterovaginal prolapse. Int Urogynecol J 18:1271–1276.
25. Dietz V, Huisman M, de Jong JM, Heintz PM, van der Vaart CH (2008) Functional outcome after sacrospinous hysteropexy for uterine descensus. Int Urogynecol J 19(6): 747–752.
26. Brummen HJ, van de Pol G, Aalders CIM, Heintz APM, van der Vaart CH (2003) Sacrospinous hysteropexy compared to vaginal hysterectomy as primary surgical treatment for a descensus uteri: effects on urinary symptoms. Int Urogynecol J 14:350–355.
27. Maher CF, Cary MP, Slack CJ, Murray CJ, Milligan M, Schluter P (2001) Uterine preservation or hysterectomy at sacrospinous colpopexy for uterovaginal prolapse. Int Urogynecol J 12:381–385.
28. Hefni M, El-Toukhy T, Bhaumik J, Katsimanis E (2003) Sacrospinous cervicocolpopexy with uterine conservation for uterovaginal prolapse in elderly women: an evolving concept. Am J Obstet Gynecol 188(3):645–650.
29. Jeng CJ, Yang YC, Tzeng CR, Shen J, Wang LR (2005) Sexual functioning after vaginal hysterectomy

or transvaginal sacrospinous uterine suspension for uterine prolapse. J Reprod Med. 50:669–674.
30. Viviane Dietz & Carl H. van der Vaart & Yolanda van der Graaf & Peter Heintz & Steven E. Schraffordt Koops (2010) One-year follow-up after sacrospinous hysteropexy and vaginal hysterectomy for uterine descent: a randomized study. Int Urogynecol J 21:209–216.
31. Slieker-ten Hove MC, Pool-Goudzwaard AL, Eijkemans MJ, Steegers-Theunissen RP, Burger CW, Vierhout ME (2009) The prevalence of pelvic organ prolapse symptoms and signs and their relation with bladder and bowel disorders in a general female population. Int Urogynecol J Pelvic Floor Dysfunct 20:1037-45.
32. Olsen AL, Smith VJ, Bergstrom JO, Colling JC, Clark AL (1997) Epidemiology of surgically managed pelvic organ prolapse and urinary incontinence. Obstet Gynecol 89:501-6.
33. Marchionni M, Bracco GL, Checcucci V, Carabaneanu A, Coccia EM, Mecacci F, Scarselli G (1999) True incidence of vaginal vault prolapse. Thirteen years of experience. J Reprod Med 44: 679-684.
34. Barrington JW, Edwards G (2000) Posthysterectomy vault prolapse Int Urogynecol. J Pelvic Floor Dysfunct 11:241-245.
35. Dällenbach P, Kaelin-Gambirasio I, Jacob S, Dubuisson JB, Boulvain M (2008) Incidence rate and risk factors for vaginal vault prolapse repair after hysterectomy. Int Urogynecol J Pelvic Floor Dysfunct 19:1623-9.
36. Dällenbach P, Kaelin-Gambirasio I, Dubuisson JB, Boulvain M (2007) Risk factors for pelvic organ prolapsed repair after hysterectomy. ObstetGynecol 110:625-32.
37. Hefni M, El-Toukhy T, Bhaumik J, Katsimanis E (2003) Sacrospinous cervicocolpopexy with uterine conservation for uterovaginal prolapse in elderly women: an evolving concept. Am J ObstetGynecol 188:645-50.
38. Morgan DM, Rogers MA, Huebner M, Wei JT, Delancy JO (2007) Heterogeneity in anatomic outcome of sacrospinous ligament fixation for prolapse: a systematic review. ObstetGynecol 109:1424-33.
39. Diwan A, Rardin CR, Kohli N (2004) Uterine preservation during surgery for uterovaginal prolapse: a review. Int Urogynecol J Pelvic Floor Dysfunct 15:286-92.
40. Dietz V, de Jong J, Huisman M, SchraffordtKoops S, Heintz P, van der Vaart CH (2007) The effectiveness of the sacrospinous hysteropexy for the primary treatment of uterovaginal prolapse. Int Urogynecol J Pelvic Floor Dysfunct 18:1271-6.
41. Dietz V, Huisman M, de Jong J, Heintz P, van der Vaart CH (2008) Functional outcome after sacrospinous hysteropexy for uterine descensus. Int Urogynecol J Pelvic Floor Dysfunct 19:747-52.
42. Maher CF, Cary MP, Slack MC, Murray CJ, Milligan M, Schluter P (2001) Uterine preservation or hysterectomy at sacrospinous colpopexy for uterovaginal prolapse? Int Urogynecol J Pelvic Floor Dysfunct 12:381-385.
43. Brummen HJ, van de Pol G, Aalders CIM, Heintz APM, van der Vaart (2003) Sacrospinous hysteropexy compared to vaginal hysterectomy as primary surgical treatment for a descensus uteri: effect on urinary symptoms. Int Urogynecol J Pelvic Floor Dysfunct 14:350-355.
44. Hefni MA, El-Toukhy TA (2006) Long-term outcome of vaginal sacrospinous colpopexy for marked uterovaginal and vault prolapse. Eur J Obstet GynecolReprod Biol 127:257-263.
45. Dietz V, van der Vaart CH, van der Graaf Y, Heintz P, SchraffordtKoops SE (2010) One-year follow-up after sacrospinous hysteropexy and vaginal hysterectomy for uterine descent: a randomized study. Int Urogynecol J Pelvic Floor Dysfunct 21: 209-16.
46. Renée J Detollenaere, Jan den Boon, Jelle Stekelenburg, Akeel HH Alhafidh, Robert A Hakvoort, Mark E Vierhout, Hugo WF van Eijndhoven (2011) Treatment of uterine prolapse stage 2 or higher: a randomized multicenter trial comparing sacrospinous fixation with vaginal hysterectomy (SAVE U trial). BMC Women's Health 11:4.
47. Hendrix SL, Clark A, Nygaard I, Aragaki A, Barnabei V, McTiernan A (2002) Pelvic organ prolapse in the Women's Health Initiative: gravity and gravidity. AmJ ObstetGynecol 186:1160–6.
48. Samuelsson EC, Arne Victor FT, Tibblin G, Svardsudd KF (1999) Signs of genital prolapse in a Swedish population of women 20 to 59 years of age and possible related factors. Am J ObstetGynecol 180:299–305.
49. Mant J, Painter R, Vessey M (1997) Epidemiology of genital prolapse: observations from the Oxford Family Planning Association Study. Br J Obstet Gynaecol 104:579–85.
50. Bartoletti R (2007) Pelvic Organ Prolapse: A Challenge for the Urologist. european urology 51: 8 8 4 – 8 8 6.
51. Nichols DH (1982) Sacrospinous fixation for massive eversion of the vagina. Am J ObstetGynecol 142:901-4.
52. Morley GW, DeLancey JO (1988) Sacrospinous ligament fixation for eversion of the vagina. Am J Obstet Gynecol 158: 872-81.
53. Hoffman MS, Harris MS, Bouis PJ (1996) Sacrospinous colpopexy in the management of uterovaginal prolapse. J Reprod Med 41:299-303.

54. Richardson DA, Scotti RJ, Ostergard DR (1989) Surgical management of uterine prolapse in young women. J Reprod Med 34: 388-92.
55. Kovac SR, Cruikshank SH (1993) Successful pregnancies and vaginal deliveries after sacrospinous uterosacral fixation in five of nineteen patients. Am J ObstetGynecol 168:1778-86.
56. Ozcan U, Gungor T, Ekin M, Eken S (1999) Sacrospinous fixation for the prolapsed vaginal vault. Gynecol Obstet Invest 47:65-8.
57. Mohamed Hefni, MD, and Tarek El- Toukhy, MD (2000) Vaginal subtotal hysterectomy and sacrospinous colpopexy: An option in the management of uterine prolapse. Am J ObstetGynecol 183(2): 494-495.
58. Cruikshank SH, Cox DW (1990) Sacrospinous ligament fixation at the time of transvaginal hysterectomy. Am J ObstetGynecol 162:1611–1619.
59. Randall CL, Nichols DH (1971) Surgical treatment of vaginal eversion. ObstetGynecol 38:327–332
60. Nichols DH, Randall CL (1989) Vaginal surgery, 3rd edn. Baltimore: Williams & Wilkins, 328–329.
61. Meschia M, Bruschi F, Amicarelli F, Pifarotti P, MarchiniM, Crosignani PG(1999) The Sacrospinous Vaginal Vault Suspension: Critical Analysis of Outcomes. Int Urogynecol J 10:155–159.
62. Ryhammer AM, Laurberg S, Djurhuus JC, Hermann AP (1998) No relationship between subjective assesment of urinary incontinence and pad test weight gain in a random population sample of menopausal women. J Urol 159:800–803.
63. Wyman JF, Choi SC, Harkins SW, Wilson MS, Fantl JA (2002) The urinary diary in evaluation of incontinent women: a test-retest analysis. Obstet Gynecol 71:812–817.
64. Dietz V, de Jong J, Huisman M, KoopsSS, HeintzP, van der Vaart H (2007) The effectiveness of the sacrospinous hysteropexy for the primary treatment of uterovaginal prolapse. Int Urogynecol J 18: 1271–1276.
65. Symmonds RE, William TJ, Lee RA, Webb MJ (1981) Posthysterectomy enterocele and vaginal vault prolapse. Am J ObstetGynecol 140:852–859
66. Morley GW, DeLancey JO (1988) Sacrospinous ligament fixation for eversion of the vagina. Am J Obstet Gynecol 158:872–881.
67. Cruikshank SH (1991) Sacrospinous fixation–should this be performed at the time of vaginal hysterectomy? Am J ObstetGynecol 164: 1072–1076.
68. Meschia M, Bruschi F, Amicarelli F, Pifarotti P, MarchiniM, CrosignaniPG (1999) The Sacrospinous Vaginal Vault Suspension: Critical Analysis of Outcomes. Int Urogynecol J 10:155–159.
69. Glencoe Foundation. Hope for Life. Website: http://glencoefoundation.org/(accessed 17.10.2020)
70. DAK Foundation. Website: http://dak.org.au/ (accessed 17.10.2020)

This page is intentionally left blank

Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 7 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Primary Transitional Cell Carcinoma of Fallopian Tube: A Rare Entity with Review of Literature

By Arun Elangovan, Chinna Babu Dracham, Lokeswari Annam & Vani Bharani

Abstract- *Objective:* Primary fallopian tube carcinoma (PFTC) is a rare entity constituting only 0.2-1.5% of all primary female genital-tract malignancies. Transitional cell carcinoma of fallopian tube is very rare constituting only around 10% of the PFTC and very less literature have been reported worldwide.

Case report: A 59-year-old postmenopausal women presented with discharge per vaginum and abdominal distension, and was found to have right adnexal mass on clinical examination. Imaging findings were suggestive of a heterogenous adnexal mass and she underwent staging laparotomy. Post-operative histopathology examination confirmed a primary transitional cell carcinoma of right fallopian tube. FIGO stage was IA, and she received six cycles of adjuvant chemotherapy. The patient is now alive, after 10-years of initial treatment.

Keywords: *fallopian tube carcinoma, transitional cell carcinoma.*

GJMR-E Classification: *NLMC Code: WP 300*

Strictly as per the compliance and regulations of:

Primary Transitional Cell Carcinoma of Fallopian Tube: A Rare Entity with Review of Literature

Arun Elangovan [α], Chinna Babu Dracham [σ], Lokeswari Annam [ρ] & Vani Bharani [ω]

Abstract- Objective: Primary fallopian tube carcinoma (PFTC) is a rare entity constituting only 0.2-1.5% of all primary female genital-tract malignancies. Transitional cell carcinoma of fallopian tube is very rare constituting only around 10% of the PFTC and very less literature have been reported worldwide.

Case report: A 59-year-old postmenopausal women presented with discharge per vaginum and abdominal distension, and was found to have right adnexal mass on clinical examination. Imaging findings were suggestive of a heterogenous adnexal mass and she underwent staging laparotomy. Post-operative histopathology examination confirmed a primary transitional cell carcinoma of right fallopian tube. FIGO stage was IA, and she received six cycles of adjuvant chemotherapy. The patient is now alive, after 10-years of initial treatment.

Conclusion: Clinicopathological characteristics and prognosis of primary transitional cell carcinoma of fallopian tube has to be distinguished from highly aggressive adenocarcinoma of fallopian tube. PFTC is a rare tumor and challenging to diagnose for clinicians and pathologists.

Keywords: fallopian tube carcinoma, transitional cell carcinoma.

I. Introduction

Primary transitional cell carcinoma of fallopian tube (TCCFT) is a very rare gynecological malignancy. It is most commonly seen in postmenopausal women in their 4-7th decade of life. Because of its rarity, management guidelines are not available. Treatment is usually done on the lines of epithelial ovarian carcinoma (EOC). Only fewer than 25 cases have been reported worldwide.[1,2,3]

II. Case Presentation

A 59 year old non diabetic, non hypertensive, postmenopausal woman presented with scanty foul smelling discharge per vaginum with intermittent spotting and abdominal distension of four months duration. There was no history of vomiting, loss of appetite or weight loss. Her bowel and bladder habits were also normal. Her general physical examination was grossly within normal limits. She had an ECOG (Eastern Co-operative Oncology Group) performance status of one. Per vaginal examination, revealed an adnexal mass in the right hemi pelvis. The same mass was felt in pouch of Douglas on per rectal examination. Pap smear was normal. Her routine blood investigations, chest X-ray and CA-125 (cancer antigen-125) (12 IU/ml) were within normal limits. CECT of the abdomen and pelvis showed a heterogeneous right adnexal mass of size 5×3cm. Ascites and lymph nodes were not seen. A provisional diagnosis of ovarian malignancy was made.

She underwent exploratory laparotomy, total abdominal hysterectomy (TAH) and bilateral salpingo ophorectomy (BSO) along with pelvic and para aortic lymph nodal sampling, infracolic omentectomy and peritoneal fluid cytology. Intra-operatively a solid-cystic mass with a smooth surface of size 5×5 cm was found arising from the distal 4.5cm of the right fallopian tube. The fimbrial end and both ovaries were normal. No significantly enlarged pelvic or para aortic lymph nodes were seen. Cut section showed a solid, fleshy, grey white tumor with papillary projections within the lumen of the tumor and necrosis was noted at center. Histologically the tumor was arranged in the form of exophytic papillae and solid sheets. The tumor cells were mitotically active, had moderately pleomorphic nuclei and conspicuous nucleoli (Figure no.1). Tumor was infiltrating the muscular wall of fallopian tube and reaching very close to the serosa. Both ovaries and the left fallopian tube were apparently normal. No tumor deposits were found on omentum. Peritoneal cytology was negative for malignancy.

The diagnosis of Primary TCCFT of the right fallopian tube was made, FIGO (International Federation of Gynecology and Obstetrics) stage IA. The patient received six cycles of adjuvant chemotherapy with paclitaxel (175mg/m2 on D1), and carboplatin (AUC 6 on D1) once in three weeks. After this she was kept on periodic follow up and was last seen in our OPD in September 2018. She was clinically and radiologically disease free, after a follow-up of ten years. Written informed consent was obtained from the patient for reporting purpose.

Author α: MD Radiotherapy, Clinical Fellow, Department of Radiation Oncology, Tom Baker Cancer Centre, University of Calgary, Canada. e-mail: arune195@gmail.com
Corresponding Author σ: MD Radiotherapy, Consultant, Department of Radiation Oncology, Queen's NRI Hospital, Visakhapatnam, India. e-mail: chinnababudraksham@gmail.com
Author ρ: MD Radiotherapy Consultant, Department of Radiation Oncology Indian Red Cross Society Cancer Hospital, Nellore, India. e-mail: lokeswari.mm@gmail.com
Author ω: MD Pathology, Senior resident, Department of Pathology PGIMER, Chandigarh, India. e-mail: vanibharani@gmail.com

III. Discussion

Primary fallopian tube carcinoma (PFTC) is a rare entity, frequently seen in post menopausal women in their 4-7th decade of life. It accounts for 0.2-0.5% of all primary female genital malignancies.[1] Commonest histological variant of PFTC is adenocarcinoma (90%). However endometrioid carcinoma, clear cell carcinoma, squamous cell carcinoma, mixed carcinoma, sarcoma and transitional cell carcinoma have also been seen.[2]

Hu and Seldies et al. defined the criteria for PFTC which includes (1) tumor origin from endosalpinx, (2) Histological similarity with the epithelium of fallopian tube and (3) Normal ovaries and uterus on gross examination. If a foci of carcinoma present in these organs, it can be because of metastasis or double primary depending on the epicenter and tumor size.[2] TCCFT was first described by Federman & Toker.[3] According to Chin H et al.[4] TCCFT originates from transitional cell metaplasia of serosa or mucosal epithelium and the morphology is similar to transitional cell carcinoma of urothelium. To the best of our knowledge, fewer than 25 cases have been reported in literature as of now (Table no: 1).

Table no.1: Literature review on Primary fallopian tube transitional cell carcinoma (TCCFT).

S. No.	Study	No. of cases	Histology	Tumor size (cm)	FIGO Stage	Surgery	Adjuvant treatment	Outcome
1	Kim JW et al. (1999) [1]	1	Primary fallopian tube transitional cell carcinoma	-	I	TAH + BSO[a]	Chemotherapy (Cisplatin based)	12 months-alive
2	Babu MR et al.(2009) [2]	1	Primary fallopian tube transitional cell carcinoma	14×8	IC	TAH + BSO + Pelvic & para aortic LND[b] + appendicectomy, along with peritoneal biopsies	Chemotherapy (paclitaxel and carboplatin)	12 months – alive
3	Keepanasseril A et al.(2015) [3]	2	Primary fallopian tube transitional cell carcinoma	4.6×2.3	I & II	TAH + BSO+ PLND+ infracolic omentectomy and multiple peritoneal biopsies	Chemotherapy (paclitaxel and carboplatin)	18-20 months – alive
4	Takeuchi S et al. (1999) [6]	1	Primary fallopian tube transitional cell carcinoma	-	I	TAH + BSO + Pelvic & para aortic LND + infracolic omentectomy	Chemotherapy (Cisplatin based)	4 years – alive
5	Mardi K et al. (2011) [9]	1	Primary fallopian tube transitional cell carcinoma	3×3	I	TAH + BSO+ infracolic omentectomy + pelvic & para aortic LN sampling	Chemotherapy (paclitaxel and carboplatin)	-
6	Gupta N et al.(2005) [10]	1	Primary fallopian tube transitional cell carcinoma	2.5×2×2	IV	TAH + BSO+ partial omentectomy	Chemotherapy (Cisplatin based)	-
7	Index case	1	Primary fallopian tube transitional cell carcinoma	5×5	IA	TAH + BSO+ infracolic omentectomy + pelvic & para aortic LN sampling	Chemotherapy (paclitaxel and carboplatin)	10 years – alive

[a] *TAH+BSO: Total abdominal hysterectomy and Bilateral salpingoophorectomy*
[b] *LND: Lymphnode dissection*

Signs and symptoms can be pelvic pain, pelvic mass and profuse serosanguineous vaginal discharge (hydrops tubae profluens) i.e. Latzok's sign. This typical triad of symptoms was reported in 15% of cases only.[5] Pectasides D et al. have reported that vaginal bleeding and abdomino-pelvic mass in is the commonest sign (50-60%) followed by dull aching or colicky pain (30-40%). The presenting features are similar to EOC but duration of symptoms is generally shorter. These tumors spread in similar fashion as that of EOC i.e. direct extension, dissemination to ovaries, peritoneum and trans-peritoneal seeding.[6] TCCFTs can also present with an abnormal pap smear. Adenocarcinoma was reported in 0% - 23% of cases in cervical cytology smears and squamous cell carcinoma was reported in one case report.[5] PFTC with exfoliated malignant cells in cervical Pap smear with negative cervical biopsy and endometrial curettage is also described in literature and it is rarely seen in cases of adenocarcinoma of fallopian tube. Pap smear was normal in our index case. So the likelihood of tubal malignancy should be kept in mind and must be confirmed by appropriate investigations.[7]

CA125 is elevated in majority of cases (>80%), which is an independent poor prognostic factor[2,8] and is monitored during follow up. Ultrasonogram (USG) and CECT scan are useful diagnostic tests however preoperative reporting rate of PFTC is low (<2%).[5] The index case also couldn't be diagnosed on USG or CECT

because right ovary was not seen separately from adnexal mass. Morphology of these tumors is similar to that of transitional cell carcinoma arising from the urothelium. Grossly, the lumen of fallopian tube is filled with solid, fleshy, necrotic tumor and dilated papillary projections. Para-fallopian tube carcinoma is a recently recognized pathological entity where the tumor is presumed to arise from paratubal cyst or serosa of tube or walthard's rest. Therefore it is paramount to differentiate TCCFT from para-fallopian tube transitional cell carcinoma, to distinguish their clinical characteristics.[5]

Treatment is based on the lines of EOC. Surgery is the primary treatment i.e. TAH, BSO along with tumor debulking and lymph node dissection. Pelvic and para-aortic lymph node dissection has survival advantage over lymph node sampling. FIGO surgical staging is used as in EOC. Previous studies have suggested that TCCFT have higher rate of lymph node involvement as compared to EOC, so meticulous evaluation of lymph nodes should be done.[1,2] Adjuvant chemotherapy is given for all patients except for stage I disease without risk factors (muscular layer and fimbrial involvement). Our index case showed muscular layer infiltration by tumor cells. Combination chemotherapy with paclitaxel and carboplatin is the gold standard regimen as in EOC.[9] Uehira K et al.[10] compared clinic-pathological and immunohistochemical (IHC) characteristics along with relapse rate of transitional cell (TC) predominant PFTC and Non-TC predominant PFTC. They observed that microscopically, TC predominant tumors were more likely to have necrosis and spindle cells as compared to non TC predominant tumors. IHC markers like CA-125, CEA (carcino embryonic antigen), EMA (epithelial membrane antigen), cytokeratin and vimentin were not useful to differentiate the two types. Clinical parameters like age, symptoms, stage, serum CA-125 levels and malignant cytology of peritoneal fluid were similar in both the groups. Despite all these similarities and similar treatment, relapse free survival was higher in TC-predominant tumors as compared to non-TC predominant tumors (31.2 months versus 14.4 months).

IV. Conclusion

To conclude, TCCFT is a very rare entity. Till date, only isolated case reports and retrospective series are present in literature. If a patient presents with clinical signs and symptoms like profuse vaginal discharge or bleeding, with negative cervical cytology and curettage, PFTC should be included in the differential diagnosis. Due to lack of information, the treatment and follow up is done on the lines of EOC. However, Due to high rate of lymph node metastasis in TCCFT, routine evaluation of lymph nodes should be done.

Acknowledgement: None

Disclosure statement: The Author(s) declare(s) that there is no conflict of interest

Funding source: None

Author's Contributions:

All the authors critically reviewed the manuscript for its content, contributed to the interpretation and presentation of the review, and approved the final version of the same before submission.

Specific contributions by the individual authors have been highlighted below:

1. Dr. Arun Elangovan- Critically reviewed the article before submission not only for spelling and grammar but also for its intellectual content.
2. Dr. Chinna Babu Dracham- Constructed the idea for case report; prepared the manuscript, organised and supervised the course of the article.
3. Dr. Lokeswari Annam– Responsible for the patient's management, follow up.
4. Dr. Vani Bharani– Provided the tissue diagnosis, performed the immunocytochemistry for its confirmation and delivered the images regarding the same.

References Références Referencias

1. Kim JW, Cho EM, Kim YT, Han JH. A case of primary transitional cell carcinoma of the fallopian tube. J Obstet Gynaecol Res. 1999;25(5):321-6. PubMed PMID: 10533326.
2. Babu MR, Haji AG, Chitrathara K, Vijaykumar DK, Samanta J, Hiran KR. Primary transitional cell carcinoma of the fallopian tube in a premenopausal woman: A case report and review of literature. Indian J Med Paediatr Oncol. 2009;30(1):35-8. PubMed PMID: 20668606.
3. Keepanasseril A, Bagga R, Saha SC, Dey P, Gainder S, Dhaliwal LK. Primary fallopian tube transitional cell carcinoma. J Obstet Gynaecol. 2015;35(3):324-5. PubMed PMID: 25162143.
4. Chin H, Matsui H, Mitsuhashi A, Nagao K, Sekiya S. Primary transitional cell carcinoma of the fallopian tube: a case report and review of the literature. Gynecol Oncol. 1998;71(3):469-75. Review. PubMed PMID: 9887253.
5. Pectasides D, Pectasides E, Economopoulos T. Fallopian tube carcinoma: a review. Oncologist. 2006;11(8):902-12. Review. PubMed PMID: 16951394.
6. Takeuchi S, Hirano H, Ichio T, Taniguchi H, Toyoda N. A case report: rare case of primary transitional cell carcinoma of the fallopian tube. J Obstet Gynaecol Res. 1999;25(1):29-32. PubMed PMID: 10067010.
7. Gemignani ML, Hensley ML, Cohen R, Venkatraman E, Saigo PE, Barakat RR. Paclitaxel-based chemotherapy in carcinoma of the fallopian tube.

Gynecol Oncol. 2001;80(1):16-20. PubMed PMID: 11136563.
8. Uehira K, Hashimoto H, Tsuneyoshi M, Enjoji M. Transitional cell carcinoma pattern in primary carcinoma of the fallopian tube. Cancer. 1993;72(8):2447-56. PubMed PMID: 8402462.
9. Mardi K, Kaushal V. Primary Transitional Cell Carcinoma of the Fallopian Tube. Online J Health Allied Sci. 2011;10(4):8.
10. Gupta N, Srinivasan R, Nijhawan R, Dhaliwal LK. Primary fallopian tubal transitional cell carcinoma with exfoliation of malignant cells in cervical Pap smear. Cytojournal. 2005;2:20. PubMed PMID: 16336674.

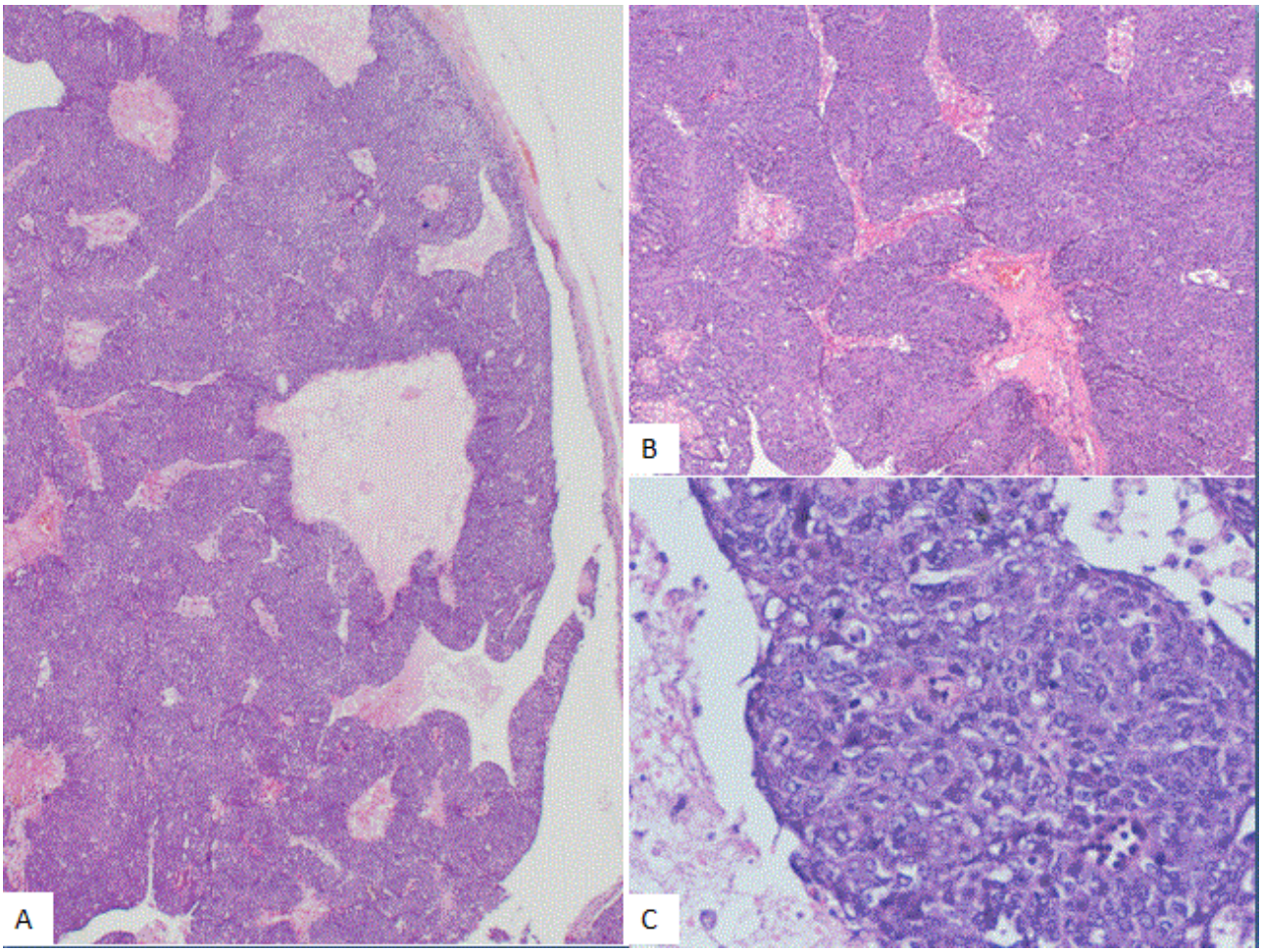


Figure 1

A. Tumor arranged in thick papillae with central fibrovascular cores (Hematoxylin and eosin10x)
B. Papillae lined by malignant epithelium, resembling urothelium (Hematoxylin and eosin 20x)
C. Tumor cells with moderate nuclear atypia (Hematoxylin and eosin 40x)

Abbreviations:
CECT: Contrast Enhanced Computed Tomogram
USG: Ultrasonogram
FIGO-IA: International Federation of Gynecology and Obstetrics - Stage IA
OPD: Out Patient Department
TCCFT: Transitional cell carcinoma of fallopian tube
PFTC: Primary fallopian tube carcinoma
CEA: Carcino embryonic antigen
EMA: Epithelial membrane antigen
CA-125: Cancer antigen-125

Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 7 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Living with the Dead

By Dr. Ashok Anand, Dr. Binita Shah & Dr. Saman Syed

Abstract- Intrauterine twin gestation with death of one foetusleads to anxiety in the mind of patient, relatives and even obstetrician.Fetal demise of a twin in the first trimester (vanishing twin) is not very rare and does not impair the development of the surviving twin. However Fetal death in late second and third trimester increase the risk of complications for the surviving co twin such as IUGR, preterm labor, neurodevelopmental impairment and maternal complications such as maternal coagulopathy, preeclampsia, sepsis and perinatal mortality. The causes of fetal death vary and include twin to twin transfusion, placental insufficiency, IUGR, preeclampsia, velamentous insertion of cord, cord around neck, congenital anomaly, etc. The objective of this study is to ascertain the prognosis of the surviving co twin to aid counseling of patients and foreground future research.

GJMR-E Classification: NLMC Code: WQ 225

Strictly as per the compliance and regulations of:

Living with the Dead

Single Intrauterine Fetal Demise in Twin Pregnancy, Outcome of the Surviving Co Twin and Maternal Perinatal Care: A Report of Five Cases

Dr. Ashok Anand [α], Dr. Binita Shah [σ] & Dr. Saman Syed [ρ]

Abstract- **Intrauterine twin gestation with death of one foetusleads to anxiety in the mind of patient, relatives and even obstetrician.Fetal demise of a twin in the first trimester (vanishing twin) is not very rare and does not impair the development of the surviving twin. However Fetal death in late second and third trimester increase the risk of complications for the surviving co twin such as IUGR, preterm labor, neurodevelopmental impairment and maternal complications such as maternal coagulopathy, preeclampsia, sepsis and perinatal mortality. The causes of fetal death vary and include twin to twin transfusion, placental insufficiency, IUGR, preeclampsia, velamentous insertion of cord, cord around neck, congenital anomaly, etc. The objective of this study is to ascertain the prognosis of the surviving co twin to aid counseling of patients and foreground future research.**

I. Material and Methods

Five cases were studied in a period of 1 year at a tertiary care centre. The cases were managed conservatively with regular monitoring of maternal coagulation profile along with meticulous fetal surveillance for the surviving twin. The antenatal complications and the fetomaternal outcome in early postpartum period was also studied.

Cases

Case 1: Primigravida with DCDA twins with IVF conception with Rh negative status with hypothyroidism. Pt had triplet conception after IVF with amnioreduction of one triplet done at 10 weeks of gestation. This was followed by IUFD of 2nd twin in late 2nd trimester. Ultrasonography was suggestive of one live twin of 24.1 weeks gestation with 2nd twin IUFD of 18.1 weeks mean gestational age with normal doppler study of surviving co twin. All laboratory investigations were within normal range. Pts blood group was B negative and husbands blood group was B positive. Anti D injection was given after doing indirect coombs test which was negative. Weekly coagulation profile was monitored. Weekly obstetrical ultrasound with doppler studies were done to see fetal growth and biweekly NST was done for fetal surveillance. Emergency LSCS was done at 37 weeks in view of premature rupture of membranes and a healthy female baby of 2.1kg and macerated baby of 150 gm delivered.

Author: *e-mail: binitashah693@gmail.com*

Case 2: G2P1L1 with DCDA twins with 2nd twin IUFD of 25 weeks of gestation. Pt had history of previous normal fullterm vaginal delivery and spontaneous conception in present pregnancy. Pt went in preterm labour at 30 wks and delivered a healthy female baby of 1.45 kg and a macerated female baby of 450 gms both vaginally. Healthy baby was admitted under NICU ivo low birth weight and preterm delivery.

Case 3: G2P1L1 with DCDA twins with IUGR with previoushistory of caesarian section with 2nd twin IUFD of 25.4 wks. Previous caeserian section was done in view of breech presentation 5 year back. Pt was started on IUGR regimen and strict daily fetal kick count charting was done. Daily Scar site tenderness was checked. Pt went in pretermlabour at 34 weeks of gestation and delivered a healthy female baby of 2.1kg and a macerated male baby of 450 gms vaginally (VBAC). Healthy baby admitted in NICU ivo respiratory distress for observation and was shifted to normal ward on day 2 after symptoms relieved.

Case 4: G2P1L1 DCDA twins with one twin IUFD of 21 weeks. Elective lower segment cesarean section was done at 37 completed weeks of gestation, a healthy male baby of 2.3 kg and a male macerated still birth of 300 gms was delivered.

Case 5: Primigravida with MCDA twins with one twin IUFD at 30 weeks gestation with pregnancy induced hypertension. Bp charting and toxemia charting was done and patient was watched for any pre monitoring signs and symptoms. Patient started complaining of decreased fetal movements at 36.4 weeks. Urgent ultrasound done was suggestive of uteroplacental with fetoplacental insufficiency in the surviving twin and hence an emergency cesarian section was done. Pt delivered a healthy male baby of 1.9kg and a macerated male still birth of 1.4 kg. Post delivery the Blood pressure normalized and antihypertensives were tapered and then stopped.

All patients were admitted in our hospital in view of high-risk cases for close observation and prevention of complications. The patients and relatives were worried about the possibility of adverse outcome with respect to danger to mother as well as surviving co twin. Initial assessment and evaluation of all the cases were done. The patients and relatives were then counselled about the possible adverse effects of foetal prematurity,

in case the pregnancy requires early termination. They were explained in detail about the further plan of management and the advantages as well as the risk of continuation of pregnancy till foetal maturity is reached. Laboratory investigations were sent for all patients – Complete blood count for hemoglobin and total leukocyte counts, Liver function test, Renal Function Test, Thyroid profile, Fasting and post prandial sugars, serological investigations like HIV, HBsAG, HCV, VDRL, Urine routine microscopy and culture sensitivity, high vaginal swab culture sensitivity, coagulation profile like PT INR, APTT, D dimer, Fibrinogen. All investigations were within normal range for all patients. DIC profile was repeated weekly and cultures were repeated fortnightly. All patients were given prophylactic broad spectrum antibiotics for one week. Injection Proluton 250mg was given intramuscularly weekly till 32 weeks gestation. Pts were also started on tablet Ecospirin 75 mg once daily or Injection Enoxaparin 0.4mg subcutaneously once daily till 34 weeks. Injection betamethasone 12 mg f/b 12 mg after 24 hours was given for lung maturity of surviving co twin and prevent infant respiratory distress syndrome, might premature delivery occur. Weekly ultrasonography with doppler studies were done for fetal growth and monitoring. Biweekly NST (non stress test) was done. Daily fetal kick count charting was done. Those with IUGR in surviving twin were started on IUGR regimen including arginine granules and protein powder. 2 patients went in spontaneous preterm labour, Emergency lscs was taken for 2 patients and one patient was taken for elective LSCS at 37 weeks. Post delivery patients were given injectable broad spectrum antibiotics for 1 week, neonatologists were consulted for neurological development of the baby. Healthy mother and baby were discharged from the hospital.

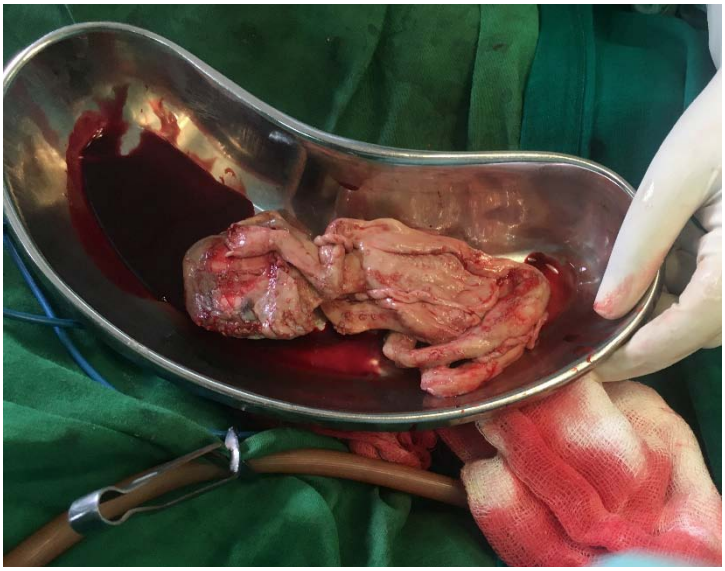
II. Discussion

Pregnancies with multifetal gestation are associated with a greater risk of perinatal morbidity and mortality as compared to pregnancies with single gestation. Single fetal death in early pregnancy, also known as vanishing twin occurrs in about 21% of early twin pregnancies. The rate of single intrauterine fetal demise in twin pregnancies is about 2.5% to 5.0 %, thus leading to major complications for the surviving co-twin including a greater risk of preterm birth, neurologic morbidity, and an increased risk of perinatal mortality

Causes of intra-uterine foetal demise in twin pregnancies

1. Placental	-Twin to twin transfusion syndrome
	- placental infarcts
	- placental insufficiency
	- abruptio placenta
2. Umbilical cord complications	- true knot
	-Velamentous insertion of cord
	-Cord entanglement around neck of foetus
3. Foetal congenital anomaly	
4. Anomalies of uterus	
5. Iatrogenic (indicated)	Selective foeticide

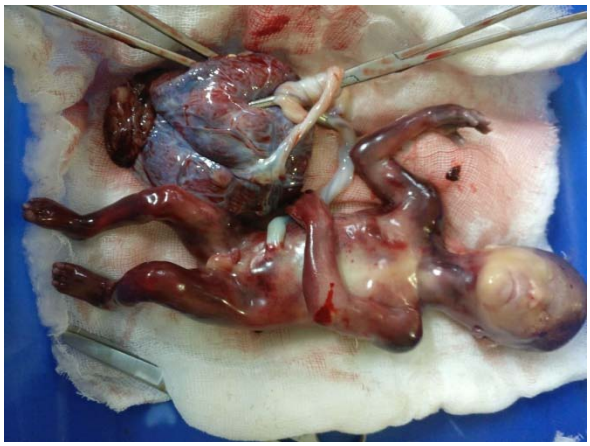
Congenital anomalies in the dead foetus are very difficult to diagnose because of foetus papyraceus (severe maceration) formation at the time of birth. Selective feticide is done especially in cases of foetus with Down syndrome in multiple gestation.



A-Foetus Papyraceus of ApproximatelY 150 GMS

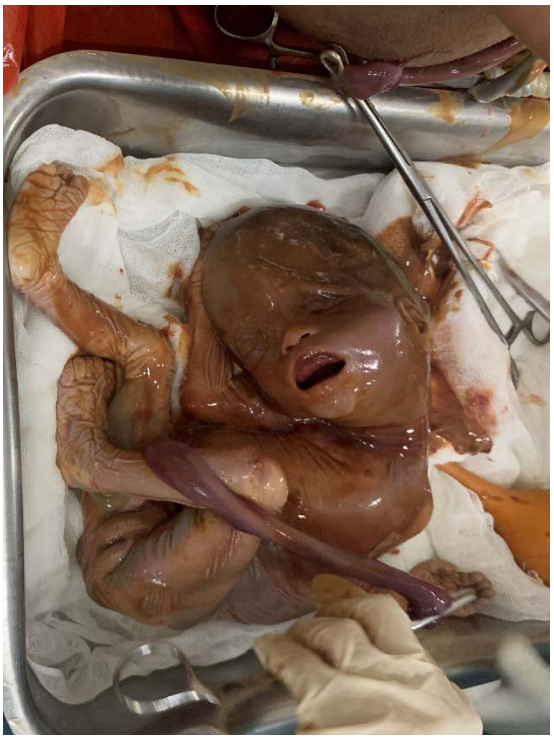
B- Healthy Cord of Normal Twin and Dark Coloured Cord of Iufd

1



2

3



4

Congenital Anomaly Difficult to Diagnose Due to Maceration in All Iufds (1,2,3,4)

a) Complications

The most dangerous complication in continuation of pregnancy more than6 weeks after single foetal demise is the risk of Diffuse Intravascular coagulation in the mother. This is due to fibrin and thromboplastin that are released from dead foetus in the maternal circulation, also known as "foetal death syndrome". Complications in the surviving twin include increase risk of intra-uterine growth retardation and death due to infection and sepsis.

b) Management

The most important prognostic factor for the surviving co-twin is very severe prematurity, therefore a management plan should be based on preventing prematurity keeping in mind the fact that the intrauterine environment is potentially dangerous for the surviving twin. Before 34 weeks of gestation, pts should be admitted as high risk obstetrics case, complete bed rest should be given and close observation and monitoring of patient and surviving foetus should be done. Pts to be watched for complications such as pregnancy-induced hypertension, intrauterine growth restriction, and preventing preterm delivery. Maternal coagulation profile including fibrinogen and fibrin degradation products should be checked once weekly. Daily monitoring of fetal movements and fetal heart rate should be done. An ultrasonography with doppler studies should be done weekly with special attention on fetal growth, the amniotic fluid index and the placenta. Many patients unfortunately go in spontaneous preterm labour. Corticosteroids should be given to promote lung maturity and prevent respiratory distress syndrome in infants in case premature delivery occurs. Good emotional support is given to mother and relatives. Between 34 and 37 weeks of gestation, corticosteroids are not necessary, the risk of prematurity has to be weighed against risk of complications to mother and surviving foetus to continue pregnancy and delivery to be planned. After reaching 37weeks, the patient should be planned for delivery as the risk of placental insufficiency increases and the psychologic stress for the parents also becomes very severe. High risk of haemorrhage at the time of caesarean section should be explained and all arrangements to be made regarding availability of blood and blood components. After delivery the newborn should be examined thoroughly and observed for neurological development. Regular check up of newborn should be done including ultrasound for any anomaly and CT scan of head for neurological mal development should be done.

III. Conclusion

The outcome of a single fetal death in a twin pregnancy depends largely on gestation. Preterm birth was the commonest adverse outcome. All such pregnancies should be managed in tertiary care centre with sufficient neonatal support. A management plan should be individualized.Intensive foetal and maternal surveillance should be done. Although our study was small, it indicates that in case of twin pregnancy with

single fetal death with good surveillance, the living co twin can be salvaged. Conservative management should be preferred, however the risk of keeping the surviving co-twin in the hostile intrauterine environment must be weighed against the risk of preterm delivery. Proper counselling, psychological support, and long-term follow-up are mandatory in these cases

References Références Referencias

1. Williams Obstetrics 25th edition. Multifetal gestation.
2. Keremy TD, Chitkara U. Selective birth in twin pregnancy with discordancy for Down's Syndrome. N Engl J Med 1981;304:1525-1527.
3. Landy HJ, Weiner S, Corson SL, Batzer FR. The 'vanishing twin': ultrasonograhic assessment of fetal disappearance in the first trimester. Am J Obstet Gynaecol.155 (1):14-19. PMID 3524235.
4. FusiL, GordonH.Twin pregnancy complicated by single intrauterine death. Problems and outcome with conservative management.Br J ObstetGynecol 1990;97:511-16
5. I.B.M. Van den Veyver, E. Schatteman, J.S. Vanderheyden, J. Van Wiemeersch and P. Meulyzer Antenatal fetal death in twin pregnancies: a dangerous condition mainly for the surviving co-twin; a report of four cases. European Journal of Obstetrics & Gynecology and Reproductive Biology, 38 (1990) 69-73
6. Karl WM. Intrauterine death in a twin: Implications for the survivor. In: Ward RH, Whittle M, editors. Multiple Pregnancy. London: RCOG Press; 1995. p. 218-30
7. Pritchard JA, Ratnoff OD. Studies of fibrinogen and other haemostatic factors in women with intrauterine death and delayed delivery. SurgGynecolObstet1955; 101:467-77.
8. Benirschke K. Intrauterine death of a twin: mechanism, implications for surviving twin, and placental pathology. Semin Diagn Pathol 1993;10:222-31.

This page is intentionally left blank

Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 7 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

A Prospective Analytical Study of Cervical Cytology in Pregnant Women Attending a Tertiary Hospital in Pondicherry

By Shraddha D. Pathak, Nina V. Kate, Sujatha P, Lalitha P & Prathusha.K.

Abstract- *Background:* This study was done to analyse the cervical cytological changes in pregnant women, to screen and down stage cervical cancer, to identify and treat cervical infections and to create awareness about the need for regular screening.

Methods: A prospective analytical study was conducted on 500 pregnant women during their first antenatal visit irrespective of gestational age after taking informed consent. Pap smears were taken, stained and interpreted according to Bethesda-III system (2001).

Results: Mean age of the patients was 25.98±3.56 years. 99% smears were reported as satisfactory. The smear was inflammatory in 55.6% cases. Candidial infection was detected in 2%, bacterial vaginosis in 4% and trichomoniliasis in 5.6% of the cases. Epithelial cell abnormality was reported in 2 (0.4%) cases namely, ASCUS and HSIL. Only 0.6% of the patients were aware of Pap smear.

Keywords: *cervical cytology, cervical cancer, Papanicolaou smear, cancer screening, epithelial cell abnormality.*

GJMR-E Classification: *NLMC Code: WQ 400*

Strictly as per the compliance and regulations of:

A Prospective Analytical Study of Cervical Cytology in Pregnant Women Attending a Tertiary Hospital in Pondicherry

Shraddha D. Pathak [α], Nina V. Kate [σ], Sujatha P [ρ], Lalitha P [ω] & Prathusha.K. [¥]

Abstract- Background: This study was done to analyse the cervical cytological changes in pregnant women, to screen and down stage cervical cancer, to identify and treat cervical infections and to create awareness about the need for regular screening.

Methods: A prospective analytical study was conducted on 500 pregnant women during their first antenatal visit irrespective of gestational age after taking informed consent. Pap smears were taken, stained and interpreted according to Bethesda-III system (2001).

Results: Mean age of the patients was 25.98±3.56 years. 99% smears were reported as satisfactory. The smear was inflammatory in 55.6% cases. Candidial infection was detected in 2%, bacterial vaginosis in 4% and trichomoniliasis in 5.6% of the cases. Epithelial cell abnormality was reported in 2 (0.4%) cases namely, ASCUS and HSIL. Only 0.6% of the patients were aware of Pap smear.

Conclusions: The study demonstrates the feasibility of doing antenatal screening using Pap smear and provides an opportunity in educating and sensitizing women about cervical screening. Pap smear also has a role in detecting infections thereby preventing antenatal complications.

Keywords: cervical cytology, cervical cancer, Papanicolaou smear, cancer screening, epithelial cell abnormality.

I. Introduction

In women aged 21 to 35 years, pregnancy provides a window of opportunity to screen the cervix for neoplastic as well as infectious diseases and create awareness in women about the need for regular screening. Carcinoma of the cervix is the most common malignancy among Indian women between 15-44 years of age.[1] The crude incidence rate for cervical cancer is 23.5 per 1,00,000 population. About 30% of cervical cancers are diagnosed during the reproductive years and 3% of cervical cancers are diagnosed during pregnancy.[2] The incidence of abnormal Pap smear is reported to be 5-8% and 1.2% of these patients end up having cervical cancer during pregnancy.[3]

Author α ρ: Department of Obstetrics and Gynaecology.
Author ω: Department of Pathology, Rajiv Gandhi Government Women and Children Hospital, Pondicherry, India.
Corresponding Author σ: Department of Obstetrics and Gynaecology, Rajiv Gandhi Government Women and Children Hospital, Pondicherry, India. e-mail: drninakate@gmail.com

The Pap smear is most successful screening test for carcinoma cervix. It is also used to detect inflammation and infections in asymptomatic women. Early diagnosis and treatment of such infections results in prevention of premature rupture of membranes, premature birth, chorioamnionitis etc.

This study was conducted to analyse cervical smear abnormalities in pregnant women attending the antenatal clinic of our hospital.

II. Methodology

A prospective analytical study was conducted in 500 pregnant women attending the antenatal OPD at a District Hospital in the Department of Obstetrics and Gynecology in Puducherry for a period of one year fulfilling the inclusion criteria, after obtaining written, informed and valid consent.

a) Inclusion Criteria

1. Pregnant women presenting for the first antenatal visit.
2. Aged between 21-35 years.

The study was done after obtaining the clearance from the institutional ethical committee.

b) Exclusion Criteria

Pregnant women presenting with

1. Threatened abortion.
2. Vaginal bleeding due to any other cause.
3. Not consenting to be a part of the study.

Pap smear with cotton tipped swab was taken, conventional smears were made and fixed in 95% alcohol, dried, stained and interpreted according to Bethesda-III system (2001).

In patients where the Pap smear was satisfactory with normal findings, a routine screening was advised postnatally.

Patients with unsatisfactory Pap smear, a repeat Pap was taken after 8weeks.

Patients whose Pap smear showed infections, were treated with appropriate antibiotics and again it was repeated after 6weeks.

Pap smear which showed abnormal cytology or premalignant lesions, were followed up with repeat cytology, colposcopy or biopsy.

c) *Statistical Analysis*

The data obtained from the study was analysed using SPSS 15.0 software. Results on continuous measurements were presented on Mean SD(Min-Max) and results on categorical measurements were presented in Number(%). Chi-square/Fisher Exact test was used to find the significance of study parameters on categorical scale between two or more groups. A P value <0.05 was considered to be significant.

III. Results

500 antenatal patients participated in the study and the mean age was 25.98±3.56 years with 51% of the patients in 21-25years age group.(Table 1).

Table 1: Distribution of age of patients (N=500).

Age in years	No. of patients (%)
21-25	255 (51)
26-30	191 (38.2)
31-35	49 (9.8)
36-40	5 (1)
Total	500 (100)

**Range of age: 22- 39 years*
**Mean age: 25.98 ± 3.56 years (mean ± SD)*

62.8% of the study population belonged to socioeconomic class IV.(Figure 1).

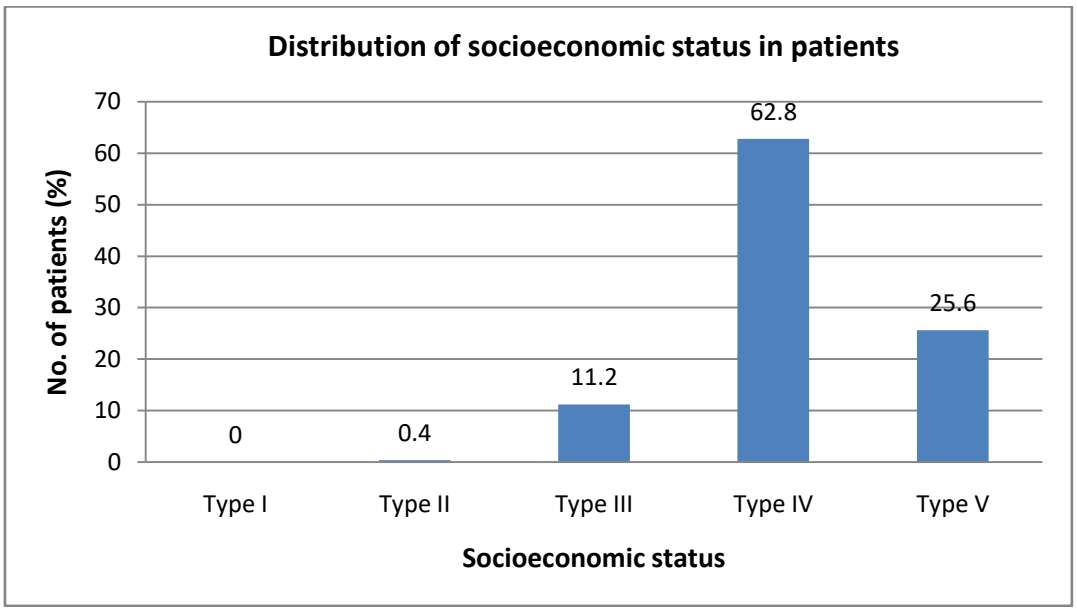


Figure 1: Distribution of socioeconomic status in patients

The mean age at marriage was 22.66±3.24 y, 27.6%(138) were married and 9.2%(46) had their first child at or before 20 years of age. (Table 2, 3)

Table 2: Distribution of patients in relation to age at marriage (N=500).

Age at marriage in years	No. of patients (%)
≤20	138 (27.6)
21-25	277 (55.4)
26-30	77 (15.4)
31-35	6 (1.2)
36-40	2 (0.4)
Total	500 (100)

**Range: 17 - 37 years*
**Mean age at marriage: 22.66 ± 3.24 years (mean ± SD)*

Table 3: Distribution of patients in relation to age at 1st child birth (N=500**).**

Age at 1st child birth in years	No. of patients (%)
≤20	46 (9.2)
21-25	301 (60.2)
26-30	137 (27.4)
31-35	14 (2.8)
36-40	2 (0.4)
Total	500 (100)

**Range: 19 – 38 years*
**Mean age at 1st child birth: 24.31± 3.39 years (mean ± SD)*

Out of the 240 primigravida patients, only one patient had used any method of contraception i.e condom whereas out of 169 second gravidas, 25.4%(43) used Cu T and 0.6%(1) used condom and OC Pills each respectively. (Table 4)

Table 4: Distribution of Contraceptive methods in relation to gravidity of the patients (N=500).

Gravida	Contraceptive methods (%) Condom	Cu-T	OC Pills	*ST Failed	Total no. None	of patients
Primi gravida	1 (0.4)	00 (00)	00 (00)	00 (00)	239 (99.6)	240 (48)
Second gravida	1 (0.6)	43 (25.4)	1 (0.6)	00 (00)	124 (73.4)	169 (33.8)
Third gravida	1 (1.4)	11 (15.3)	00 (00)	2 (2.8)	58 (80.5)	72 (14.4)
Fourth gravida	00 (00)	00 (00)	00 (00)	1 (6.7)	14 (93.3)	15 (3)
Fifth gravida	00 (00)	00 (00)	00 (00)	00 (00)	3 (100)	3 (0.6)
Six gravida	00 (00)	00 (00)	00 (00)	00 (00)	1 (100)	1 (0.2)
Total	3 (0.6)	54 (10.8)	1 (0.2)	3 (0.6)	439 (87.8)	500 (100)

*P<0.001**, Significant, Fisher Exact test; *Sterilisation failed*

Knowledge regarding Pap smear was very poor as out of 500, only 0.6% (3) patients had undergone a Pap smear in the past, while just 5.2% patients had previously heard of a Pap smear test. (Figure 4)

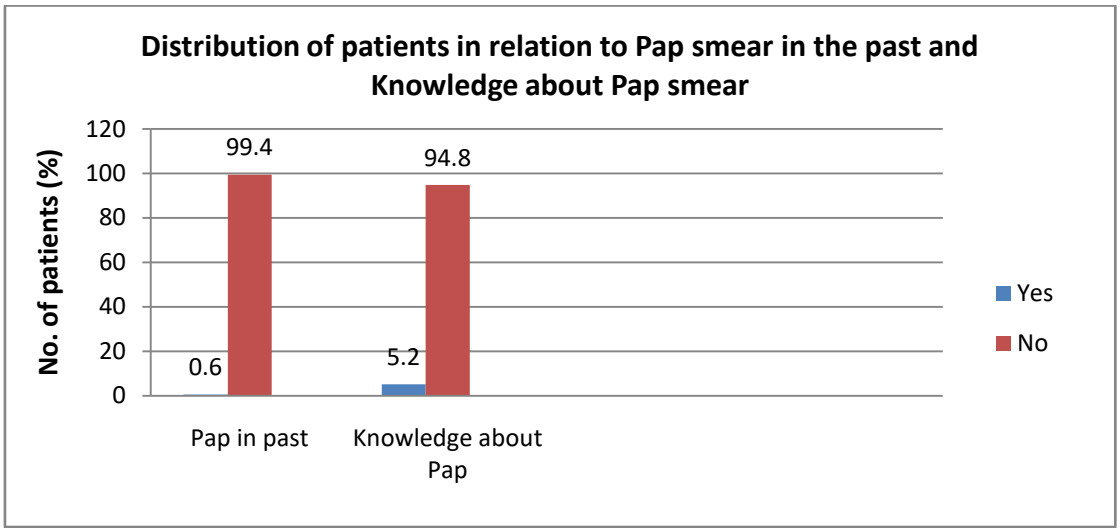


Figure 4: Distribution of patients in relation to Pap smear in the past and knowledge about Pap smear

On speculum examination, vagina was healthy in all 500 patients examined and 92.4% (462) had healthy cervix while 7.6% (38) had unhealthy cervix. (Table 5)

Table 5: Distribution of findings of Per speculum examination in patients (N=500).

Per speculum Findings	Cervix (%)	Vagina (%)
Healthy	462 (92.4)	500 (100)
Hypertrophy	1 (0.2)	00 (00)
Erosion	33 (6.6)	00 (00)
Polyp	2 (0.4)	00 (00)
Growth	2 (0.4)	00 (00)
Total	500 (100)	500 (100)

Of the 462 patients who had healthy cervix, Pap smear revealed that, infection was noted in 11.6%(55) patients where as inflammation and epithelial cell abnormality in 54.1%(250) and 0.2%(1).

Out of the 38 patients with unhealthy cervix, Hypertrophy was seen in 0.2%(1), Polyp in 0.4%(2), growth in 0.4%(2), cervical ectropion in 6.6%(33) and their pap smear showed inflammation in 78.8%(26), infection in 6.1%(2). Among the growth, 1 Papsmear showed inflammation while other was reported as HSIL. (Table6)

Table 6: Comparison of per speculum findings with Pap smear report

Per speculum Findings	No. of patients (%)	Pap smear report (%)					
		US	Normal	*Inf	*Inflam	*Epi. Cell abnormality	
Healthy	462 (92.4)	5(1.1)	151(32.7)	55(11.9)	250(54.1)	1(0.2) (ASCUS)	
Hypertrophy	1 (0.2)	0(00)	0(00)	1(100)	0(00)	0(00)	
Erosion	33 (6.6)	0(00)	5(15.1)	2(6.1)	26(78.8)	0(00)	
Polyp	2 (0.4)	0(00)	1(50)	0(00)	1(50)	0(00)	
Growth	2 (0.4)	0(00)	0(00)	0(00)	1 (50)	1(50) (HSIL)	90
Total	500 (100)	5(1%)	157(31.4)	58(11.6)	278 (55.6)	2 (0.4)	

P=0.656, Not significant, Fisher Exact test

**US- Unsatisfactory*

**Inf- Infection*

**Inflam- Inflammation*

**Epi cell abnormality- Epithelial cell abnormality*

449 patients were asymptomatic and clinically no discharge was documented but 5.4%(24) of these had infection on Pap smear which were treated. 10.2%(51) patients were asymptomatic and clinical examination revealed Discharge. Infection in both the groups were treated and repeat Papsmear was negative.(Table7)

Table 7: Distribution of patients with discharge Per vaginum in comparison with infection (N=500).

	Total no. of patients (%)	Infection present (%)	Infection absent (%)
Discharge present	51 (10.2)	34 (66.7)	17 (33.3)
Discharge absent	449 (89.8)	24 (5.4)	425 (94.6)
Total	500 (100)	58 (11.6)	442 (88.4)

*P<0.001**, Significant, Fisher Exact test*

Overall Pap smear revealed Inflammation in 55.6%, Infections such as Candidiasis in 2%, Bacterial vaginosis in 4% and Trichomoniasis in 5.6%. Epithelial cell abnormality was reported in 0.4%(2) cases i.e, Atypical squamous cells of undetermined significance(ASCUS) (Figure6) and High grade squamous intra epithelial lesion (HSIL) (Figure7). (Table8).

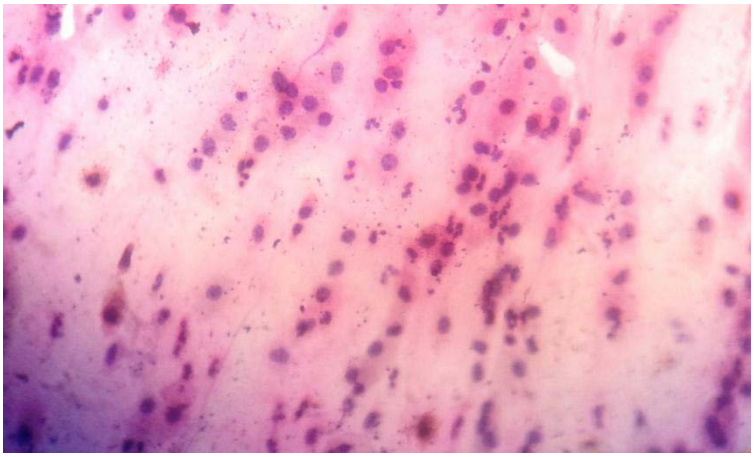


Figure 6: Pap smear showing ASCUS

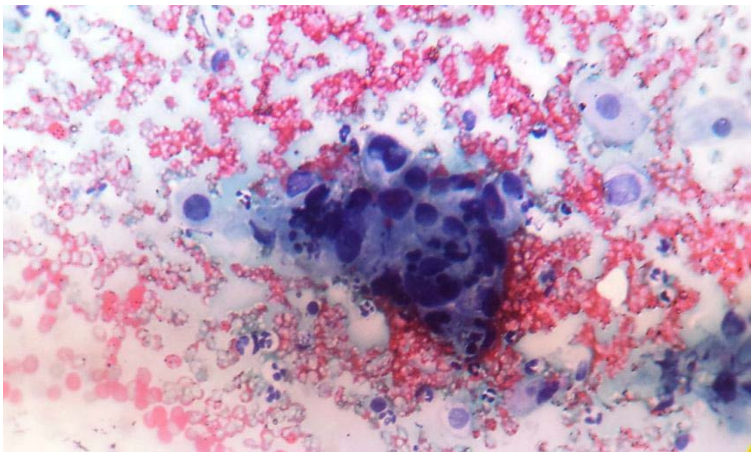


Figure 7: Pap smear showing HSIL

Table 8: Distribution of Pap smear report findings in patients (N=500).

Pap smear report	No. of patients (%)
Normal Pap smear	162 (32.4)
Benign cellular changes	
Infections	58 (11.6)
• Trichomonas vaginalis	28 (5.6)
• Candidiasis	10 (2)
• Bacterial vaginosis	20 (4)
Reactive cellular changes	278 (55.6)
Epithelial cell abnormalities	
ASCUS	1 (0.2)
HSIL	1 (0.2)
Total	500 (100)

IV. Discussion

Carcinoma cervix is the most common malignancy among Indian women aged 15- 45 years and though Pap smear is an easy and useful tool to screen, the awareness of this test is very poor. Women always visit health care providers during pregnancy so this contact should be optimally utilised to screen and

create awareness regarding Carcinoma cervix and the need for regular Pap smears so that carcinoma cervix can be down staged and infections if any can be treated early preventing its associated maternal and foetal complications.

In the present study, the mean age of the patient was 25.98 years with a standard deviation of 3.56 years. The youngest patient was 22 years while oldest was 39 years of age. In a study conducted by Ayten Dinc, average age was 27.1±4.70 yrs.[4] Mean age of the patient included in study by Singh P et al was 23.44±3.96 yrs.[5] while it was 26 and 27 years for studies conducted by Kaplan et al and Cronje et al respectively.[6,7] (Table 9)

Table 9: Mean age group in various studies

Study	Observations regarding age
Singh P et al[5]	23.44±3.96, years
Ayten Dinc[4]	27.1±4.70 years
Kaplan et al[6]	26 years
Cronje et al[7]	27 years
Present study	25.98±3.56 years

The incidence of abnormal cervical cytology was more in low socioeconomic classes(62.8%) based on B G Prasad's classification comparable to a study by C.Kurian et al[8].

Though in the study population it was seen that there was a trend of early marriage(27.6% <20 years vs 55.4% <25 years) there was a low incidence of cervical cancer, In a number of case control studies the risk of cervical cancer was found to be inversely related to age at 1st sexual intercourse, with approximately 2 fold differentials between those with consummation before 16 years of age and those having it after 20 years of age.[9] The mean age at marriage was 22.66±3.24 yrs in the present study. Thus the low incidence of cervical cancer in present population could be due to no promiscuity and delay in consummation of sexual activity.

In the present study, only (9.2%)46 patients had their first child below the age of 20 years indicating low incidence of early sexual activities, one of the main predisposing factor for abnormal cervical cytology. Sexual behavioural characteristics were considered independent risk factors for precancer and invasive cancer in Indian women in the study by Cuziks et al and Juneja et al.[10,11]

It is observed that there is significant increase in frequency and grade of cytological change with increasing parity due to cervical trauma, hormonal and nutritional changes during pregnancy and labour.[12] In the present study, 55% patients were nulliparous while 35.2% were second gravidas, having one full term delivery which may be the reason for lower rate of abnormal smears, similar to the study by Singh P et al.[5]

It was seen that, 37% belonged to first trimester, 58.2% belonged to second trimester and 4.8% belonged to third trimester at the time of examination out of which the 2 atypical cytological reports obtained were in second trimester similar to the study by Jones et al[13] This emphasizes on the need of education and awareness in patients regarding cervical cytological screening in early pregnancy similar to the study by Jones et al.[13]

Poor use and awareness of contraceptive practices was observed in our study as 87.8% of study population did not use any kind of contraception and was significantly associated with abnormal cervical cytology ($P < 0.001$) in accordance to the study conducted by C.Kurian et al where 84% patients did not use any method of contraception while 11% used condoms, 4% used Cu-T and 1% used oral contraceptive pills.[8]

Our study in accordance with other studies conducted in India Hande CM et al and C Kurien et al also showed very poor awareness and knowledge about of Pap smear, female health negligence as well as inadequate use of health resources in our country.5.2% of study population had heard of Pap smear test and only 0.6% had previously undergone a Pap smear test[15,8] (Table 10) while a study conducted in Vietnam by Nguyen et al[14] identified that 74% had heard of the test, and 76% had undergone a smear test.[14] Ayten Dinc concluded that 60.7% of cases had heard of Pap smear test and 30.1% had previously undergone a smear test.[4]

Table 10: Knowledge and awareness about Pap smear in various studies

Study	knowledge about Pap smear	Previous Pap smear
Nguyen et al[13]	74%	76%
Ayten Dinc[4]	60.7%	30.1%
Hande CM et al[14]	90.7%	-
C.Kurian et al[8]	-	0.39%
Present study	5.2%	0.6%

During pregnancy, as transformation zone is better exposed due to physiological eversion of cervix, cervical sampling becomes easier which is evident in the present study in which 99% patients had satisfactory Pap smear in accordance to the study carried out by C.Kurian et al.[8]

In asymptomatic pregnant women, a simple speculum examination of the cervix provides an opportunity to down stage cervical cancer and detect the disease at an earlier, treatable and curable stage16. In the present study, 2 patients had growth on the cervix out of which one had HSIL. Though 94%(462) patients had healthy cervix, 11.9%(55) showed infection like Trichomonas vaginalis 5.6%, Candidiasis 2%, Bacterial Vaginosis 4% while 0.2%(1) patient had epithelial cell abnormality (ASCUS) similar to studies by C.Kurien et al and Singh et al.[8,5]

At times, patient may have asymptomatic vaginal discharge. In the present study, asymptomatic vaginal discharge was seen in 10.2%(51) of the patients, out of which 66.7%(34) patients had Pap smear suggestive of infections like Trichomonas vaginalis (5.6%), candidiasis (2%) and Bacterial vaginosis (4%). In remaining 89.8%(449) patients without discharge, 5.4%(24) patients had infections. This showed additional advantage of Pap smear examination in asymptomatic women as they being asymptomatic, they are unlikely to be diagnosed or treated for such conditions which otherwise leads to premature rupture of membranes, premature birth or chorioamnionitis. There was significant correlation between discharge per vaginum and abnormal cervical cytology ($P<0.001$).

Present study had a lower incidence of abnormal cytological smears (0.4%). This may be because of limited number of patients studied.(Table 11)

Table 11: Abnormal Pap smears in different studies

	No. of study population	Incidence of abnormal smear	Abnormal smear details
Present study	500	0.4%	1 ASCUS 1 HSIL
Kaplan et al[6]	6248	2.5%	129 LSIL 28 HSIL
C.Kurian et al[8]	1002	0.19%	1 ASCUS 1LSIL
Singh P et al[5]	590	0%	-

In the present study, patients whose smears showed infections were treated with appropriate antibiotics. After 6 weeks these smears were repeated and were found to be normal. Pap smear of one of the cervical growth on speculum examination was suggestive of dense inflammation and after a course of antibiotics repeat smear taken 6 weeks later was normal. Among the abnormal cytology, the patient with ASCUS was 30 year old primigravida and other patient with HSIL was 24 years second gravida with one full term normal delivery. The patient with ASCUS was followed up till delivery and a repeat Pap smear was taken 6 weeks postnatally which was normal. Patient was advised for regular follow up. Only one patient on per speculum examination had growth with Pap smear suggestive of HSIL, biopsy was taken which showed Squamous cell carcinoma. (Figure 8) Patient had spontaneous abortion at 24 weeks of pregnancy. Patient was then referred to Regional Cancer Centre (RCC), where she was staged as IIb cervical cancer and started with radiotherapy. (Figure 9)

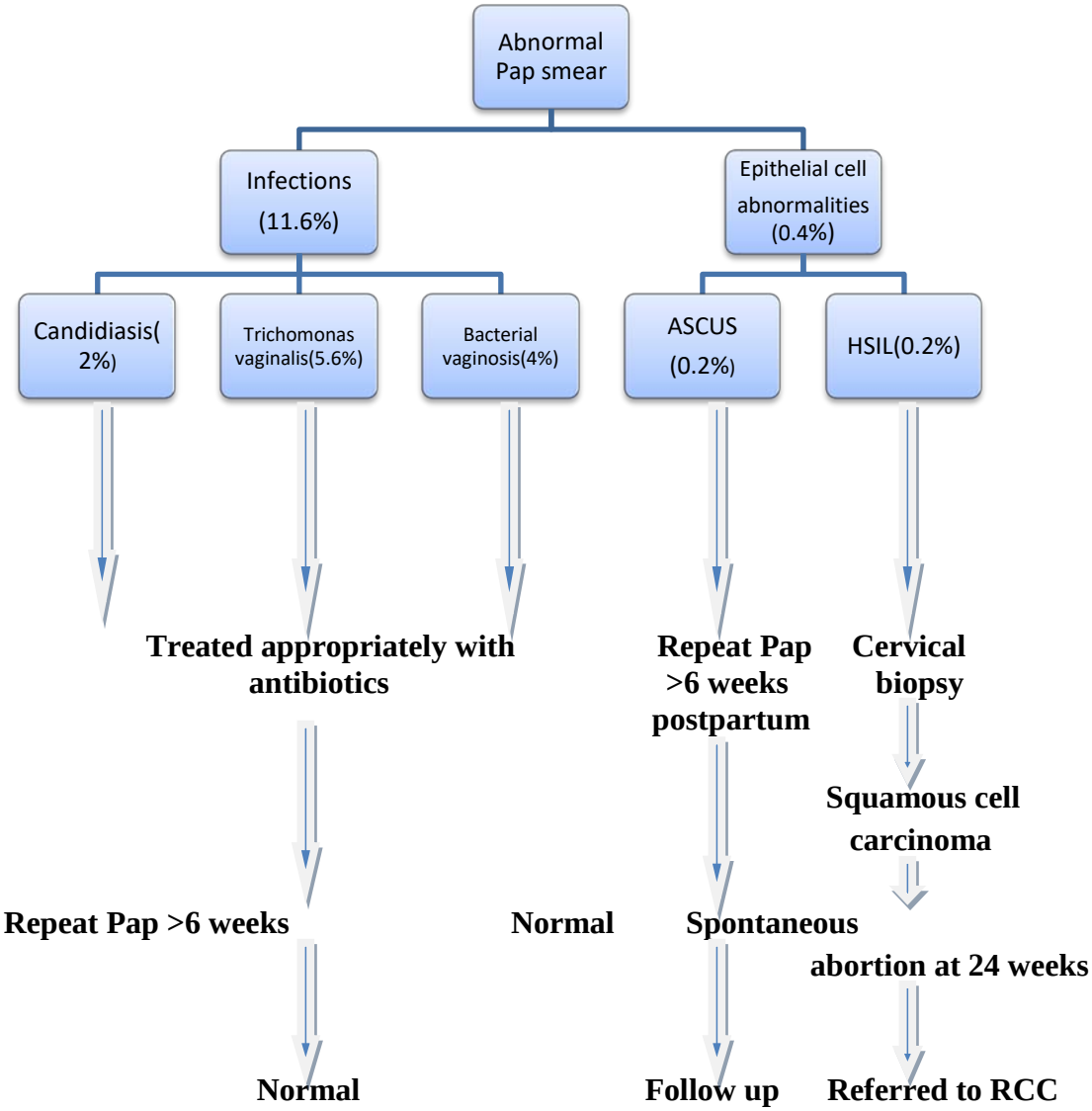


Figure 9: Abnormal Pap smear and their follow up

Acknowledgements

We express our gratitude to all the patients who participated in the study.

Declarations

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

References Références Referencias

1. WHO/ICO Information center on HPV and Cervical Cancer (HPV Information Centre). Human Papillomavirus and related cancers in India. Summary report 20.
2. Nguyen C, Montz FJ, Bristow RE. Management of stage I cervical cancer in pregnancy. Obstet Gynecol Surv. 2000;55:633-43.
3. Kaminski PF, Lyon DS, Sorosky JI, Wheelock JB, Podzasky ES. Significance of atypical cervical cytology in pregnancy. Am J Perinatol. 1992; 9: 340-3.
4. Ayten D. Pap Smear Screening Results for Turkish Pregnant Women. Asian Pacific J Cancer Prev. 2012; 13:5835-8.
5. Singh P, Baghel V. Screening of pregnant women for cervical malignancies. Int J Reprod Contracept Obstet Gynecol. 2013; 2:359-62.
6. Kaplan KJ, Dainty LA, Dolinsky B, Rose GS, Carlson J, McHale M et al. Prognosis and recurrence risk for patients with cervical squamous intraepithelial lesions diagnosed during pregnancy. Cancer (Cancer Cytopathol). 2004; 102:228-32.
7. Cronje HS, Rensburg EV, Niemand I, Cooreman BF, Beyer E, Divall P. Screening of cervical neoplasia in pregnancy. Int J Gynecol Obstet. 200; 68:19-23.

8. C.Kurian, S.Cyriac. P0015 Cervical cytological changes detected by papanicolaou smear in antenatal patients attending a tertiary care centre. European Journal of Cancer. 2014; 50:13-14.
9. Hoskins WJ, Perez CA, Young RC, Barakat R, Markman M, Randall M, editors. Principles and practical of Gynecologic oncology, 4th ed. Philadelphia: Lippincott Williams and Wilkins,2005.
10. Cuzick J, De Stavola B, Mc Cance D, Ho TH, Tan G, Cheng H, Salmon YM. A case-control study of cervix cancer in Singapore. Brit J Cancer. 1989;60:238-43.
11. Juneja A, Murthy NS, Sharma S, Sehgal A, Singh V, Menon R, Tuteja RK, Das DK. Role of degree of sexual activity in cervical carcinogenesis. Cancer journal. 1995;8:10-12.
12. Brinton La, Reeves WC, Brenes MM, Herrero R, de Britton RC, Gaitan E et al. Parity as a risk factor for cervical cancer. Am J Epidemiol. 1989;130:486-96.
13. Jones WB, Shingleton HM, Russell A, Fremgen AM, Clive RE, Winchester DPRK et al. Cervical carcinoma and pregnancy: A national patterns of care study of the American college of surgeons. Cancer. 1996;77:1479-88.
14. Nguyen TT, McPhee SJ, Nguyen T, Lam T, Mock J. Predictors of cervical Pap smear screening awareness, intension and receipt among Vietnamese-American women. Am J Prev M. 2002; 23:207-14.
15. Hande Celik Mehmetoglu, Ganime Sadikoglu, Alis Ozcakir, Nazen Bilgel. Pap smear screening in the primary health care setting: A study from Turkey. N Am J Med Sci. 2010;2:467–72.
16. Ananth R. Down staging of cervical cancer. J Indian Med Assoc. 2000;98:41-4.

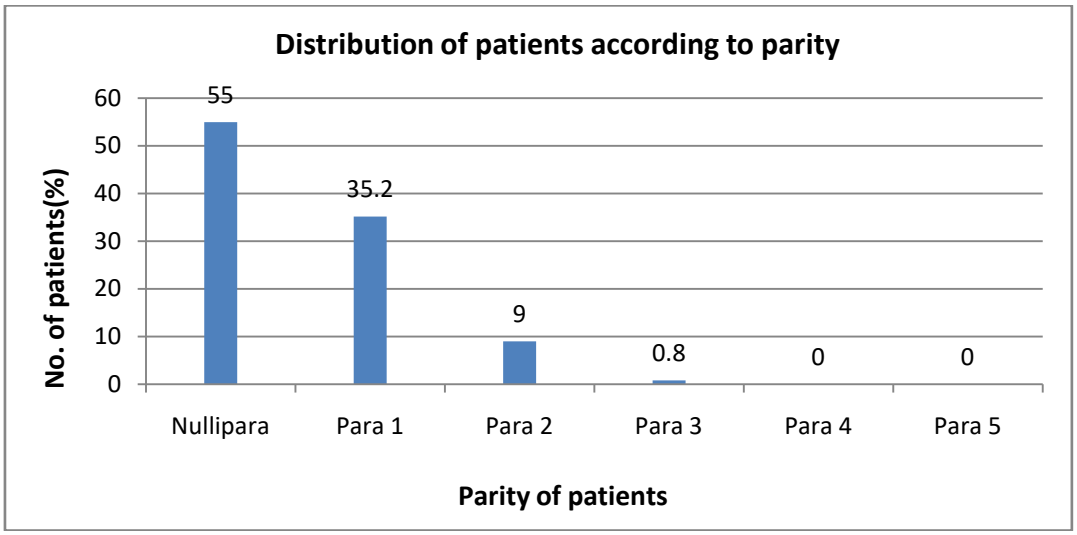


Figure 2: Distribution of patients according to parity

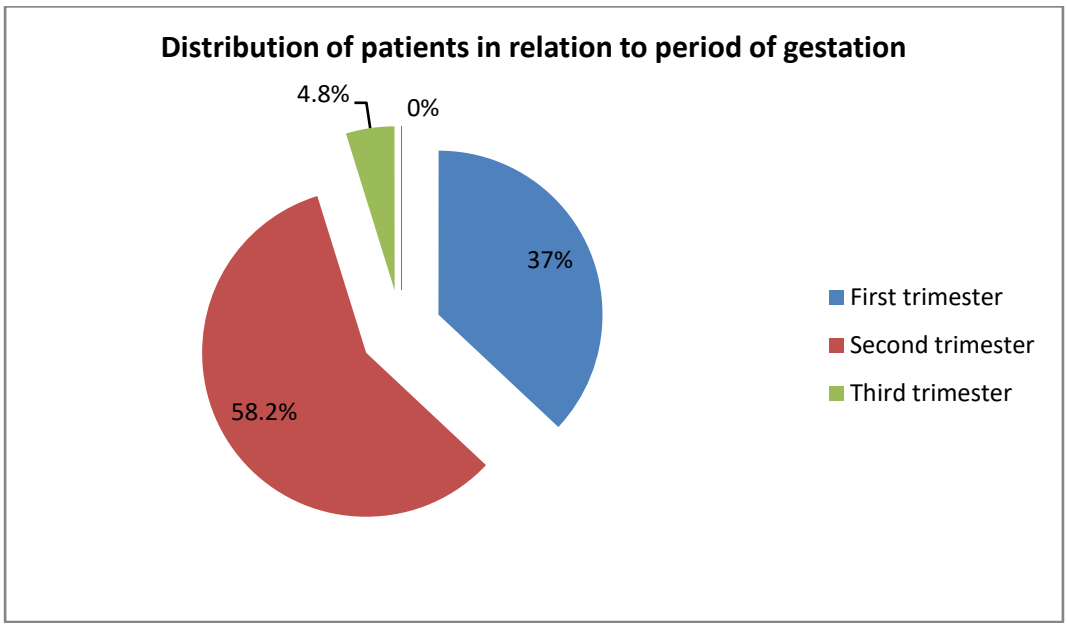


Figure 3: Distribution of patients in relation to period of gestation

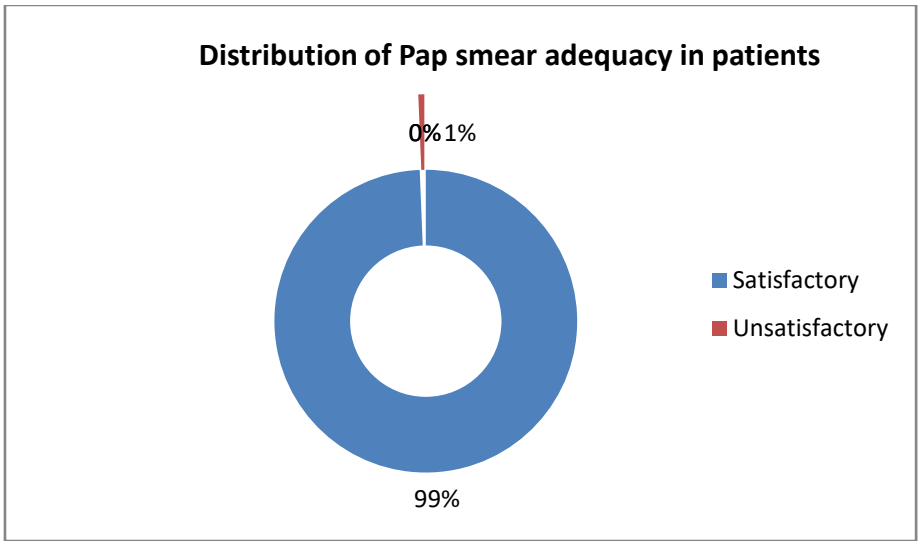


Figure 5: Distribution of Pap smear adequacy in patients

Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 7 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Study of Maternal and Fetal Outcome in COVID-19 Pregnancies

By Dr. Pushpa C & Dr. Tushar T Palve

Abstract- *Background:* Coronavirus has created a pandemic and extraordinary global Health crisis. Coronavirus disease 2019 (COVID-19) is an illness caused by a novel coronavirus now called Severe acute respiratory syndrome coronavirus 2(SARS – COV-2). The virus can cause mild to severe respiratory diseases. The objective of this study is to summarize the Maternal and Fetal outcome in COVID-19 Pregnancies.

Materials and Methods: We conducted an observational study over two months in the Department of Obstetrics, and Gynaecology, at a COVID care Centre, Cama and Albless Hospital, Mumbai. The study enrolled a total of 192 COVID positive pregnant women with inclusion and exclusion criteria. We noted, Antepartum, Intrapartum and Neonatal parameters using preformed proforma.

Results: In our study, we observed that most COVID positive pregnant women belonged to the age group of 25-29years.COVID-19 is more prevalent among primigravida (35%). Preeclampsia (37%) is more commonly associated with COVID patients. The Majority of pregnancies (74%) extended till Term. Vaginal Delivery (60%) was the most common mode of Delivery. 10% COVID positive pregnant women admitted to the Intensive Care Unit. Maternal Mortality was 4% among COVID positive pregnancies. 13% of the babies tested COVID positive born to COVID positive mothers. NICU admission was required for 38% of the positive babies. Only one neonatal death occurred among COVID positive babies.

Keywords: *COVID positive pregnancies, maternal and fetal outcome.*

GJMR-E Classification: *NLMC Code: WQ 209*

Strictly as per the compliance and regulations of:

Study of Maternal and Fetal Outcome in COVID-19 Pregnancies

Dr. Pushpa C [α] & Dr. Tushar T Palve [σ]

Abstract- Background: Coronavirus has created a pandemic and extraordinary global Health crisis. Coronavirus disease 2019 (COVID-19) is an illness caused by a novel coronavirus now called Severe acute respiratory syndrome coronavirus 2(SARS – COV-2). The virus can cause mild to severe respiratory diseases. The objective of this study is to summarize the Maternal and Fetal outcome in COVID-19 Pregnancies.

Materials and Methods: We conducted an observational study over two months in the Department of Obstetrics, and Gynaecology, at a COVID care Centre, Cama and Albless Hospital, Mumbai. The study enrolled a total of 192 COVID positive pregnant women with inclusion and exclusion criteria. We noted, Antepartum, Intrapartum and Neonatal parameters using preformed proforma.

Results: In our study, we observed that most COVID positive pregnant women belonged to the age group of 25-29years.COVID-19 is more prevalent among primigravida (35%). Preeclampsia (37%) is more commonly associated with COVID patients. The Majority of pregnancies (74%) extended till Term. Vaginal Delivery (60%) was the most common mode of Delivery. 10% COVID positive pregnant women admitted to the Intensive Care Unit. Maternal Mortality was 4% among COVID positive pregnancies. 13% of the babies tested COVID positive born to COVID positive mothers. NICU admission was required for 38% of the positive babies. Only one neonatal death occurred among COVID positive babies.

Conclusion: Per se pregnancy and childbirth do not increase the risk of acquiring SARS-COV-2 infection, however pregnancy with high risk factors like age >35years, pre-eclampsia, preexisting lung pathology, diabetes, obesity increases the inflammatory response (cytokine storm) and may worsen the clinical course of COVID-19.

Keywords: COVID positive pregnancies, maternal and fetal outcome.

I. Introduction

On 31st Dec 2019, Wuhan Municipal Commission, China, reported a cluster of 27 pneumonia cases of unknown etiology.[1] Samples tested positive for novel coronavirus.

On 30th January, 2020, WHO declared this outbreak of novel coronavirus as "A Public Health Emergency of International Concern" [2,3]. A large number of cases have been diagnosed Globally. On 11th March 2020-WHO declared COVID-19 as a Global Pandemic.[4]

Despite extensive studies on the epidemiology of COVID-19 infection, studies on pregnant women with COVID-19 diseases remain relatively less. The physiological changes occurring during pregnancy make pregnant women more vulnerable to corona infection.

The purpose of this study is to summarize the maternal and fetal outcome in COVID-19 pregnancies.

II. Material and Methods

An observational study conducted over two months (June2020-July2020) in the Department of Obstetrics and Gynaecology, at a COVID care center, Cama and Albless Hospital, Mumbai, India. A total of 192 women tested positive for COVID-19 by RT-PCR method either antenatally or postnatally are included in this study.

Inclusion Criteria

- COVID positive women beyond 28 weeks of gestation.
- Women tested positive for the corona virus within five days of delivery.

Exclusion Criteria

- Women who were less than 37 weeks of gestation.
- COVID negative pregnancies.
- Women tested COVID positive after five days of delivery.

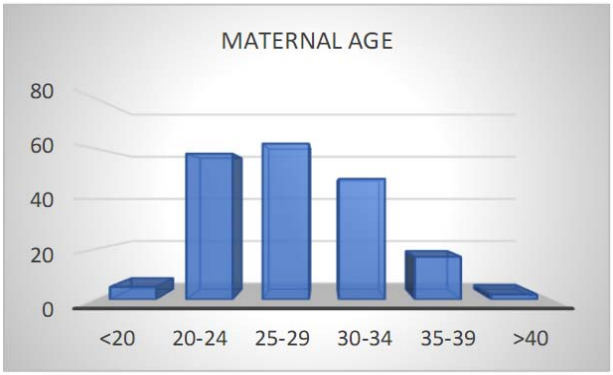
III. Results

The study included a total of 192 women with COVID positive status diagnosed by the RT-PCR method, and we noted the following observations.

1. Maternal age affected with COVID-19

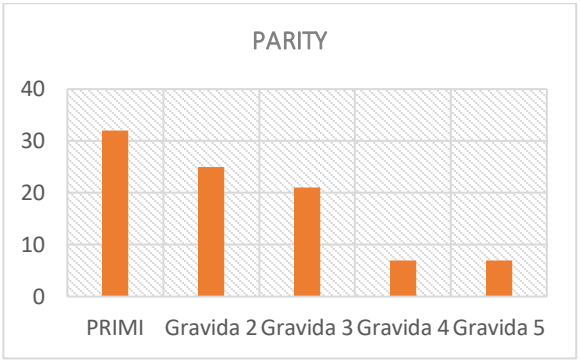
Majority of the COVID positive pregnant women belonged to the age group of 25-29yrs(32%), followed by 20-24yrs(30%), 30-34yrs(25%), 35-39yrs(9%), 3% are less than 20yrs and 1% are above the age 40years.

Author α σ: Department of obstetrics and gynecology, Grant Govt Medical College, Mumbai, India. e-mail: pushpacgowda@gmail.com



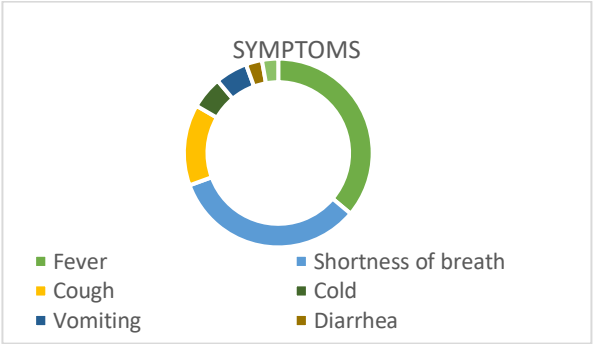
2. Parity of the patient

As per the observation made, COVID-19 is more prevalent in primigravida 35%, followed by gravida two 27%, 23% is gravida three, 7%, and 8% are in seen in gravida four and five respectively.



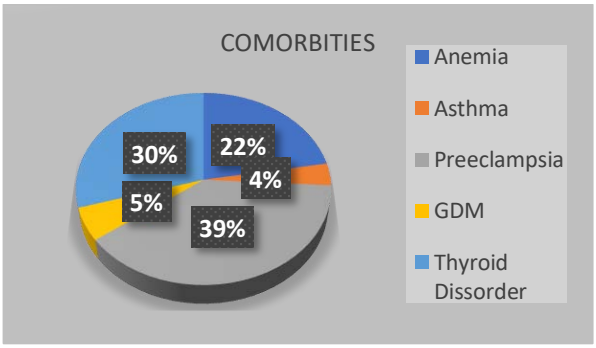
3. Symptoms of patients

In our study, fever (65%) was the most common symptom, followed by shortness of breath(60%), cough(25%), cold and anosmia (15%), loss of taste sensation(10%) vomiting(10%), diarrhea(5%) and generalized weakness(5%).



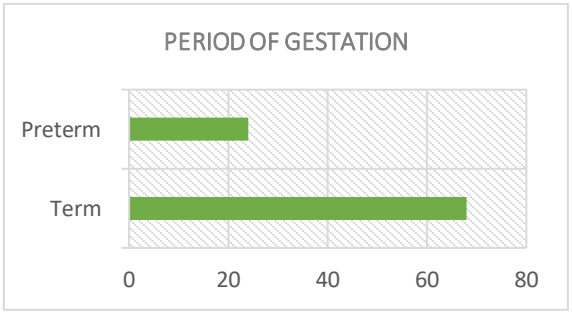
4. Comorbidities

In this study, 37% of COVID positive patients had Preeclampsia, thyroid disorders were found in 28% women, 21% were anemic, 9% of patients had a past history of tuberculosis, 5% had gestational diabetes.



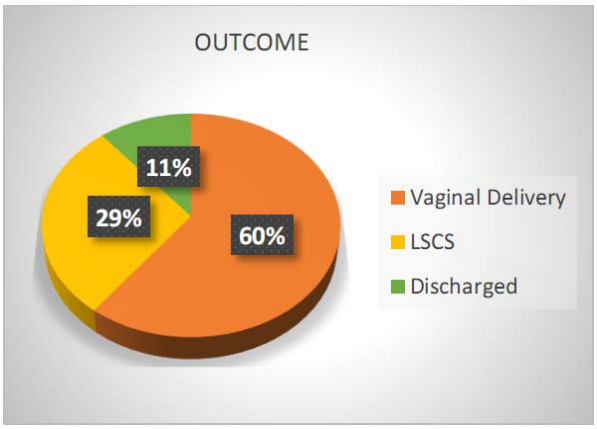
5. Period of gestation

According to the study done in our hospital, 74% of pregnancies extended till term, and 26% delivered before 37 weeks of gestation.



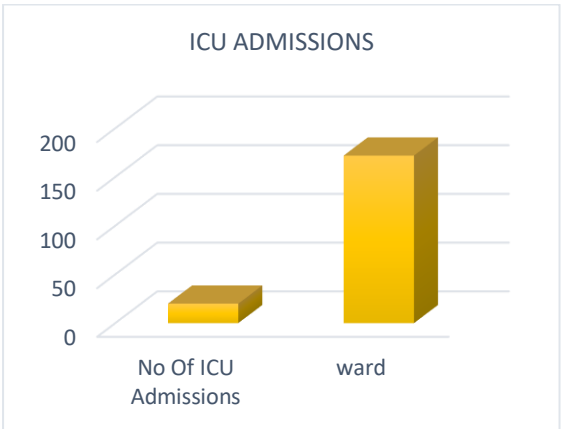
6. Outcome

In our study, out of 192 patients, 116(60%) delivered vaginally, 55(29%) underwent cesarian section, and 21(11%) patients were discharged with follow-up advice.



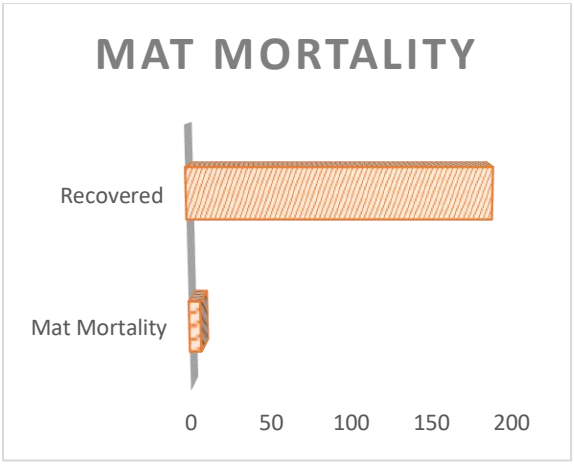
7. Intensive Care Unit admissions

In our institution, out of 192 COVID positive patients, 20(10%) patients required the intensive care unit admission, and 7(4%) patients required mechanical ventilator support, and we managed remaining 172(90%) patients in the normal wards.



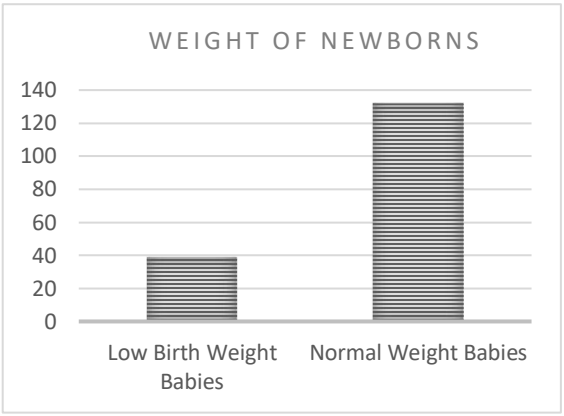
8. Maternal deaths

As per this study, 4%(7 patients out of 192) maternal death occurred among COVID positive women, and ere was recovery in 96% women.



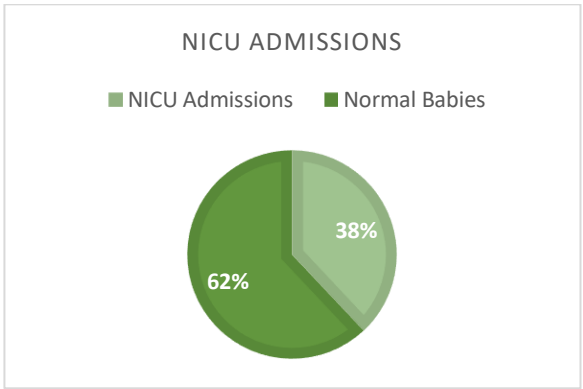
9. Low birth weight babies

Among 171 babies born to COVID positive women, we noted that a higher percentage (77%) of babies weighed more than 2500gms. 23% of babies weighed less than 2500gms.



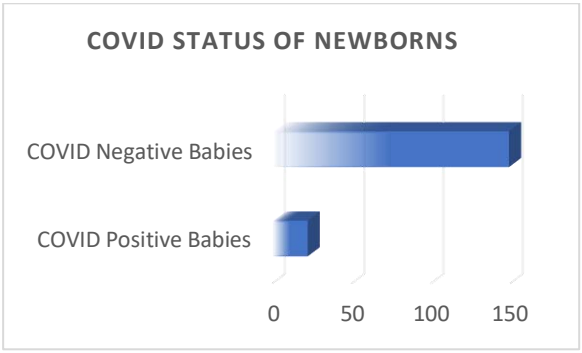
10. NICU admissions

According to the study done in our hospital, 38% of the babies born to COVID mothers required NICU admission for various reasons; fetal respiratory distress is the most common cause, followed by premature rupture of membranes, low birth weight, and blood sugars monitoring.



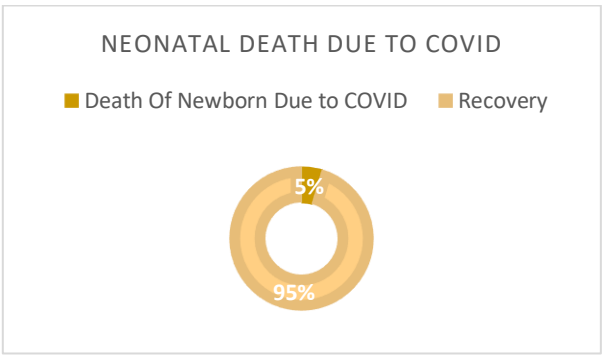
11. COVID positive newborns

As per the observation made, most of the babies born to COVID positive mothers tested negative (87%) for coronavirus.



12. Death of Neonates due to coronavirus

In our institution, we observed only one (5%) neonatal death among 21 babies who tested positive for the Corona virus. 95% of COVID positive babies recovered successfully.



IV. Discussion

In our study, the Majority of the COVID positive pregnant women belonged to the age group of 25-29yrs(32%), followed by 20-24yrs(30%), 30-34yrs(25%). While a study conducted by MJ Blist and coworkers[5] showed 6(46%) out of 13 patients were of >35years of age.

As per the observation, COVID-19 is more prevalent in primigravida 35%, followed by gravida two 27%.

In our study, fever (65%) was the most common symptom, followed by shortness of breath(60%), cough(25%), cold(10%), vomiting(10%), diarrhea(5%) and generalized weakness(5%).Similarly, in a study done by Paudel SS et al., fever was the most common symptom(17%).[6]

In this study, 37% of COVID positive patients had preeclampsia, 28% had thyroid disorders, 21% were anemic, 9% of patients had a past history of tuberculosis, 5% had gestational diabetes. Similar results were found in a study conducted by MJ Blist and coworkers, 23% had pregnancy-induced hypertension, 15% had a past history of lung disease, 8% had gestational diabetes.[5]

According to the study done in our hospital, 74% of pregnancies extended to term. 26% delivered before term gestation while in a study conducted by Mullins and colleagues, [7] 47% of the COVID positive women delivered before 37 weeks of gestation.

In our study, the majority of the patients delivered vaginally (60%), and the cesarian section rate was 29%, unlike the research conducted at BMJ where the cesarian section rate was 59%.[8]

In our institution, 10% of the patients required intensive care unit admission, seven patients required mechanical ventilator support, whereas in a study conducted by Vinayak Smith, Densearn Seo et al, 30% of the patients required ICU admission.[9]

As per this study, there were 4%(7 out of 192 patients) maternal death among COVID positive pregnant women at our institution. There was complication in 8 out of 20 ICU admitted patients with pneumonia, and six patients had acute respiratory distress syndrome, and two patients had septicemia. Three among seven patients were pre-eclamptic, and two patients had a previous history of Koch's etiology. Per se only two maternal death has occurred in the patients without having any pre-existing medical conditions, which accounts for 1% of the maternal death rate.

While in a study carried out by Forestieri, Migliore, et al., two out of seven (28%) women died who were tested positive for the Corona virus.[10]

In our institution, among 171 babies born to COVID positive women, we noted that a higher percentage (77%) of babies weighed more than 2500gms. 23% of babies had weight less than 2500gms.

According to this study, 38% of the babies born to COVID mothers required NICU admission for various reasons; fetal respiratory distress being the most common cause. Similarly, in a study conducted by Yan-Ting Wu, et al. Of 30 neonates, 18 (60%) required NICU admission, 12 of hospitalized neonates presented with features of pneumonia.[11]

As per the observation made, the majority of the babies born to COVID positive mothers tested negative (87%), and 13% tested positive for coronavirus. Similar results were found in a study done by Rui, Wang, and coworkers [12], where only 2% of babies tested positive among 493 infants tested for SARS-COV-2.

In our institution, we observed only one (5%) neonatal death among 21 babies who tested positive for the Corona virus. The cause of death was type 1 respiratory failure with thick meconium aspiration syndrome with persistent pulmonary hypertension with septic shock, 95% of COVID positive babies recovered successfully.

V. Conclusion

In our study, we observed that the COVID-19 could cause mild-lethal disease in pregnant women and neonates. Most of the women are asymptomatic or have a mild illness, but some of them require intensive care. Pregnancy represents highly adaptive immunity, allowing pregnant women to become tolerant of her fetus yet remain immunocompetent. So per se, pregnancy and childbirth do not increase the risk of acquiring SARS-COV-2 infection. However, pregnancy with high-risk factors like age >35years, pre-eclampsia, preexisting lung pathology, diabetes, obesity increases the inflammatory response (cytokine storm) and may worsen the clinical course of COVID-19. Health care providers should be aware of the epidemiology of Coronavirus disease. The evidence of Vertical transmission appears equivocal. There is no evidence to suggest contraindication to vaginal delivery. Use of proper precautionary measures like regular ANC checkups, use of mask, sanitization, maintaining social distance, educating the community regarding the same, early diagnosis, cater to the required investigations, close follow up, isolation, or in-patient admission if required reduces the maternal and fetal morbidity and mortality.

Modular infrastructure, facilities offered at Tertiary Care Centre such as well-equipped operation theatre, NICU, ventilator availability, NST monitoring, monitoring of feto-maternal wellbeing, expert obstetrician, neonatologist, anesthesiologist, medicine team plays a critical role in safe delivery and good health of both mother and neonate.

References Références Referencias

1. CDC. 2019 Novel Coronavirus, Wuhan, China. https://www.cdc.gov/coronavirus/2019ncov/about/in.dex.html.
2. Ramzy A, McNeil DG. WHO Declares Global Emergency as Wuhan Coronavirus Spreads. The New York Times. https://nyti.ms/2RER70M.
3. Gallegons A. WHO Declares Public Health Emergency For Novel Coronavirus. https://www.medscape.com/viewarticle/924596.
4. The New York Times. WHO Declares Coronavirus as Pandemic. http://www.nytimes.com/2020/03/11/world/coronavirus-news.html#link-682e5b06.
5. Maternal mortality among women with coronavirus disease 2019 by MJ Blitz www.ajog.org
6. A meta-analysis of novel coronavirus patient clinical characteristics and comorbidities by Subodh Sharma Paudel, Upendra Devkota Memorial Institute of Neurological Science. http://www.researchsquare.com/article
7. Coronavirus in pregnancy and delivery by E Mullins, D Evans, RM Viner http://doi.org/10.1002/uog.22014
8. Outcomes of pregnant women admitted to hospital with confirmed SARS-COV-2 infection https://doi.org/10.1136/bjm.m2019
9. Maternal and neonatal outcomes associated with COVID-19 infection by Smith V, Seo D http://`doi.org/10.1371/journal.pone.0234187
10. Relationship between pregnancy and coronavirus by Stefano Forestieri, Lucia Migliore http://doi.org/10.1080/14767058.2020.1771692
11. Neonatal outcome in 29 pregnant women with COVID 19:A retrospective study in Wuhan, China. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC7386573/
12. Clinical features & maternal & neonatal outcomes of pregnant women with coronavirus disease by Rui Nie, Shao-shuai Wang. http://doi.org/10.1101/2020.03.22.20041061

Global Journals Guidelines Handbook 2020

www.GlobalJournals.org

Memberships

Fellows/Associates of Medical Research Council

FMRC/AMRC Memberships

Introduction

FMRC/AMRC is the most prestigious membership of Global Journals accredited by Open Association of Research Society, U.S.A (OARS). The credentials of Fellow and Associate designations signify that the researcher has gained the knowledge of the fundamental and high-level concepts, and is a subject matter expert, proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice. The credentials are designated only to the researchers, scientists, and professionals that have been selected by a rigorous process by our Editorial Board and Management Board.

Associates of FMRC/AMRC are scientists and researchers from around the world are working on projects/researches that have huge potentials. Members support Global Journals' mission to advance technology for humanity and the profession.

FMRC

Fellow of Medical Research Council

FELLOW OF MEDICAL RESEARCH COUNCIL is the most prestigious membership of Global Journals. It is an award and membership granted to individuals that the Open Association of Research Society judges to have made a 'substantial contribution to the improvement of computer science, technology, and electronics engineering.

The primary objective is to recognize the leaders in research and scientific fields of the current era with a global perspective and to create a channel between them and other researchers for better exposure and knowledge sharing. Members are most eminent scientists, engineers, and technologists from all across the world. Fellows are elected for life through a peer review process on the basis of excellence in the respective domain. There is no limit on the number of new nominations made in any year. Each year, the Open Association of Research Society elect up to 12 new Fellow Members.

To the institution

Get letter of appreciation

Global Journals sends a letter of appreciation of author to the Dean or CEO of the University or Company of which author is a part, signed by editor in chief or chief author.

Exclusive Network

Get access to a closed network

A FMRC member gets access to a closed network of Tier 1 researchers and scientists with direct communication channel through our website. Fellows can reach out to other members or researchers directly. They should also be open to reaching out by other.

Career | Credibility | Exclusive | Reputation

Certificate

Certificate, LoR and Laser-Momento

Fellows receive a printed copy of a certificate signed by our Chief Author that may be used for academic purposes and a personal recommendation letter to the dean of member's university.

Career | Credibility | Exclusive | Reputation

Designation

Get honored title of membership

Fellows can use the honored title of membership. The “FMRC” is an honored title which is accorded to a person’s name viz. Dr. John E. Hall, Ph.D., FMRC or William Walldroff, M.S., FMRC.

Career | Credibility | Exclusive | Reputation

Recognition on the Platform

Better visibility and citation

All the Fellow members of FMRC get a badge of "Leading Member of Global Journals" on the Research Community that distinguishes them from others. Additionally, the profile is also partially maintained by our team for better visibility and citation. All fellows get a dedicated page on the website with their biography.

Career | Credibility | Reputation

Future Work

Get discounts on the future publications

Fellows receive discounts on the future publications with Global Journals up to 60%. Through our recommendation programs, members also receive discounts on publications made with OARS affiliated organizations.

Career | Financial

GJ Internal Account

Unlimited forward of Emails

Fellows get secure and fast GJ work emails with unlimited storage of emails that they may use them as their primary email. For example,
john [AT] globaljournals [DOT] org.

Career | Credibility | Reputation

Premium Tools

Access to all the premium tools

To take future researches to the zenith, fellows receive access to all the premium tools that Global Journals have to offer along with the partnership with some of the best marketing leading tools out there.

Financial

Conferences & Events

Organize seminar/conference

Fellows are authorized to organize symposium/seminar/conference on behalf of Global Journal Incorporation (USA). They can also participate in the same organized by another institution as representative of Global Journal. In both the cases, it is mandatory for him to discuss with us and obtain our consent. Additionally, they get free research conferences (and others) alerts.

Career | Credibility | Financial

Early Invitations

Early invitations to all the symposiums, seminars, conferences

All fellows receive the early invitations to all the symposiums, seminars, conferences and webinars hosted by Global Journals in their subject.

Exclusive

Publishing Articles & Books

Earn 60% of sales proceeds

Fellows can publish articles (limited) without any fees. Also, they can earn up to 70% of sales proceeds from the sale of reference/review books/literature/publishing of research paper. The FMRC member can decide its price and we can help in making the right decision.

Exclusive | Financial

Reviewers

Get a remuneration of 15% of author fees

Fellow members are eligible to join as a paid peer reviewer at Global Journals Incorporation (USA) and can get a remuneration of 15% of author fees, taken from the author of a respective paper.

Financial

Access to Editorial Board

Become a member of the Editorial Board

Fellows and Associates may join as a member of the Editorial Board of Global Journals Incorporation (USA) after successful completion of three years as Fellow and as Peer Reviewer.

Career | Credibility | Exclusive | Reputation

And Much More

Get access to scientific museums and observatories across the globe

All members get access to 5 selected scientific museums and observatories across the globe. All researches published with Global Journals will be kept under deep archival facilities across regions for future protections and disaster recovery. They get 10 GB free secure cloud access for storing research files.

ASSOCIATE OF MEDICAL RESEARCH COUNCIL

ASSOCIATE OF MEDICAL RESEARCH COUNCIL is the membership of Global Journals awarded to individuals that the Open Association of Research Society judges to have made a 'substantial contribution to the improvement of computer science, technology, and electronics engineering.

The primary objective is to recognize the leaders in research and scientific fields of the current era with a global perspective and to create a channel between them and other researchers for better exposure and knowledge sharing. Members are most eminent scientists, engineers, and technologists from all across the world. Associate membership can later be promoted to Fellow Membership. Associates are elected for life through a peer review process on the basis of excellence in the respective domain. There is no limit on the number of new nominations made in any year. Each year, the Open Association of Research Society elect up to 12 new Associate Members.

To the institution

Get letter of appreciation

Global Journals sends a letter of appreciation of author to the Dean or CEO of the University or Company of which author is a part, signed by editor in chief or chief author.

Exclusive Network

Get access to a closed network

A AMRC member gets access to a closed network of Tier 2 researchers and scientists with direct communication channel through our website. Associates can reach out to other members or researchers directly. They should also be open to reaching out by other.

Career | Credibility | Exclusive | Reputation

Certificate

Certificate, LoR and Laser-Momento

Associates receive a printed copy of a certificate signed by our Chief Author that may be used for academic purposes and a personal recommendation letter to the dean of member's university.

Career | Credibility | Exclusive | Reputation

Designation

Get honored title of membership

Associates can use the honored title of membership. The “AMRC” is an honored title which is accorded to a person’s name viz. Dr. John E. Hall, Ph.D., AMRC or William Walldroff, M.S., AMRC.

Career | Credibility | Exclusive | Reputation

Recognition on the Platform

Better visibility and citation

All the Associate members of AMRC get a badge of "Leading Member of Global Journals" on the Research Community that distinguishes them from others. Additionally, the profile is also partially maintained by our team for better visibility and citation.

Career | Credibility | Reputation

Future Work

Get discounts on the future publications

Associates receive discounts on future publications with Global Journals up to 30%. Through our recommendation programs, members also receive discounts on publications made with OARS affiliated organizations.

Career | Financial

GJ Account

Unlimited forward of Emails

Associates get secure and fast GJ work emails with 5GB forward of emails that they may use them as their primary email. For example,
john [AT] globaljournals [DOT] org.

Career | Credibility | Reputation

Premium Tools

Access to all the premium tools

To take future researches to the zenith, fellows receive access to almost all the premium tools that Global Journals have to offer along with the partnership with some of the best marketing leading tools out there.

Financial

Conferences & Events

Organize seminar/conference

Associates are authorized to organize symposium/seminar/conference on behalf of Global Journal Incorporation (USA). They can also participate in the same organized by another institution as representative of Global Journal. In both the cases, it is mandatory for him to discuss with us and obtain our consent. Additionally, they get free research conferences (and others) alerts.

Career | Credibility | Financial

Early Invitations

Early invitations to all the symposiums, seminars, conferences

All associates receive the early invitations to all the symposiums, seminars, conferences and webinars hosted by Global Journals in their subject.

Exclusive

Publishing Articles & Books

Earn 60% of sales proceeds

Associates can publish articles (limited) without any fees. Also, they can earn up to 30-40% of sales proceeds from the sale of reference/review books/literature/publishing of research paper

Exclusive | Financial

Reviewers

Get a remuneration of 15% of author fees

Associate members are eligible to join as a paid peer reviewer at Global Journals Incorporation (USA) and can get a remuneration of 15% of author fees, taken from the author of a respective paper.

Financial

And Much More

Get access to scientific museums and observatories across the globe

All members get access to 2 selected scientific museums and observatories across the globe. All researches published with Global Journals will be kept under deep archival facilities across regions for future protections and disaster recovery. They get 5 GB free secure cloud access for storing research files.

Associate	Fellow	Research Group	Basic
$4800 **lifetime designation**	$6800 **lifetime designation**	$12500.00 **organizational**	APC **per article**
Certificate, LoR and Momento **2** discounted publishing/year **Gradation** of Research **10** research contacts/day **1 GB** Cloud Storage **GJ** Community Access	**Certificate,** LoR and Momento **Unlimited** discounted publishing/year **Gradation** of Research **Unlimited** research contacts/day **5 GB** Cloud Storage **Online Presense** Assistance **GJ** Community Access	**Certificates,** LoRs and Momentos **Unlimited** free publishing/year **Gradation** of Research **Unlimited** research contacts/day **Unlimited** Cloud Storage **Online Presense** Assistance **GJ** Community Access	**GJ** Community Access

Preferred Author Guidelines

We accept the manuscript submissions in any standard (generic) format.

We typeset manuscripts using advanced typesetting tools like Adobe In Design, CorelDraw, TeXnicCenter, and TeXStudio. We usually recommend authors submit their research using any standard format they are comfortable with, and let Global Journals do the rest.

Alternatively, you can download our basic template from https://globaljournals.org/Template

Authors should submit their complete paper/article, including text illustrations, graphics, conclusions, artwork, and tables. Authors who are not able to submit manuscript using the form above can email the manuscript department at submit@globaljournals.org or get in touch with chiefeditor@globaljournals.org if they wish to send the abstract before submission.

Before and during Submission

Authors must ensure the information provided during the submission of a paper is authentic. Please go through the following checklist before submitting:

1. Authors must go through the complete author guideline and understand and *agree to Global Journals' ethics and code of conduct,* along with author responsibilities.
2. Authors must accept the privacy policy, terms, and conditions of Global Journals.
3. Ensure corresponding author's email address and postal address are accurate and reachable.
4. Manuscript to be submitted must include keywords, an abstract, a paper title, co-author(s') names and details (email address, name, phone number, and institution), figures and illustrations in vector format including appropriate captions, tables, including titles and footnotes, a conclusion, results, acknowledgments and references.
5. Authors should submit paper in a ZIP archive if any supplementary files are required along with the paper.
6. Proper permissions must be acquired for the use of any copyrighted material.
7. Manuscript submitted *must not have been submitted or published elsewhere* and all authors must be aware of the submission.

Declaration of Conflicts of Interest

It is required for authors to declare all financial, institutional, and personal relationships with other individuals and organizations that could influence (bias) their research.

Policy on Plagiarism

Plagiarism is not acceptable in Global Journals submissions at all.

Plagiarized content will not be considered for publication. We reserve the right to inform authors' institutions about plagiarism detected either before or after publication. If plagiarism is identified, we will follow COPE guidelines:

Authors are solely responsible for all the plagiarism that is found. The author must not fabricate, falsify or plagiarize existing research data. The following, if copied, will be considered plagiarism:

- Words (language)
- Ideas
- Findings
- Writings
- Diagrams
- Graphs
- Illustrations
- Lectures

- Printed material
- Graphic representations
- Computer programs
- Electronic material
- Any other original work

Authorship Policies

Global Journals follows the definition of authorship set up by the Open Association of Research Society, USA. According to its guidelines, authorship criteria must be based on:

1. Substantial contributions to the conception and acquisition of data, analysis, and interpretation of findings.
2. Drafting the paper and revising it critically regarding important academic content.
3. Final approval of the version of the paper to be published.

Changes in Authorship

The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

Copyright

During submission of the manuscript, the author is confirming an exclusive license agreement with Global Journals which gives Global Journals the authority to reproduce, reuse, and republish authors' research. We also believe in flexible copyright terms where copyright may remain with authors/employers/institutions as well. Contact your editor after acceptance to choose your copyright policy. You may follow this form for copyright transfers.

Appealing Decisions

Unless specified in the notification, the Editorial Board's decision on publication of the paper is final and cannot be appealed before making the major change in the manuscript.

Acknowledgments

Contributors to the research other than authors credited should be mentioned in Acknowledgments. The source of funding for the research can be included. Suppliers of resources may be mentioned along with their addresses.

Declaration of funding sources

Global Journals is in partnership with various universities, laboratories, and other institutions worldwide in the research domain. Authors are requested to disclose their source of funding during every stage of their research, such as making analysis, performing laboratory operations, computing data, and using institutional resources, from writing an article to its submission. This will also help authors to get reimbursements by requesting an open access publication letter from Global Journals and submitting to the respective funding source.

Preparing your Manuscript

Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.

Manuscript Style Instruction (Optional)

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11'", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

Structure and Format of Manuscript

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

a) A title which should be relevant to the theme of the paper.
b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
d) An introduction, giving fundamental background objectives.
e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
f) Results which should be presented concisely by well-designed tables and figures.
g) Suitable statistical data should also be given.
h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
j) There should be brief acknowledgments.
k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.

Format Structure

It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

All manuscripts submitted to Global Journals should include:

Title

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

Author details

The full postal address of any related author(s) must be specified.

Abstract

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Keywords

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, “What words would a source have to include to be truly valuable in a research paper?” Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

Numerical Methods

Numerical methods used should be transparent and, where appropriate, supported by references.

Abbreviations

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

Formulas and equations

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

Tables, Figures, and Figure Legends

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.

Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

Preparation of Eletronic Figures for Publication

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

Tips for writing a good quality Medical Research Paper

1. Choosing the topic: In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

2. Think like evaluators: If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

3. Ask your guides: If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

4. Use of computer is recommended: As you are doing research in the field of medical research then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

5. Use the internet for help: An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.

6. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

19. Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

20. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

21. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

22. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

23. Upon conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.

Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.

Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

Content:

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

The Administration Rules

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

Segment draft and final research paper: You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

Written material: You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.

Criterion for Grading a Research Paper (Compilation) by Global Journals

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals.

Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

INDEX

A

Anatomical · 2, 3, 4

C

Coagulation · 29, 31, 33
Congenital · 29, 31
Curettage · 25, 26

E

Elevated · 5, 25
Epithelial · 23, 26, 37, 41, 43, 46

I

Inflammation · 37, 41, 46
Intrauterine · 29, 35, 36

N

Necrosis · 23, 26

P

Pelvic · 2, 4, 5, 14, 18, 23, 24
Prevalence · 5, 18
Prolapse · 2, 3, 4, 5, 6, 11, 14, 15, 16, 17, 18, 19, 20
Protruding · 6, 8

R

Retardation · 33

S

Seclusion · 15
Speculum · 40, 41, 46
Symptomatic · 4

Global Journal of Medical Research

Visit us on the Web at www.GlobalJournals.org | www.MedicalResearchJournal.org
or email us at helpdesk@globaljournals.org

ISSN 9755896