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Effect of Castor Oil on Induction of Labour in Tertiary Care Centre

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Materials and methods: 190 Patients admitted to labour ward of obg in mdm hospital jodhpur for induction of labour Castor oil was administered in 2 doses form in 18-24hrs interval and every given dose is 50 ml (47.75gm) in 200 ml of warm milk. Antiemetic drug was given 30 minutes prior to administered castor oil to minimize nausea and vomiting. Inclusion criteria was gestational age between >37 to 42 weeks plus intact membranes or amniotic fluid index >4 and regular fetal heart rate, normal fetal movements or reactive non stress test (NST), modified Bishop's score of ≤ 5 and estimated fetal weight 2.5 to 4kg.

Results: The frequency of labor initiation in the castor oil user was 57.8% and according to various authors in their studies frequency of labor initiation after castor oil administration. *and not induce labor was observed in 42.10%* and majority of women 84 (44.21%) delivered at our tertiary care centre belongs to age group 23 -27 yrs. in the castor oil user.

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Conclusion: Castor oil are safe and effective for labour induction. Castor oil is cost-effective when compared to other inducing agents. Castor oil is stable at room temperature and does not need refrigeration.

I. INTRODUCTION

Castor oil can be considered a safe non-pharmacological method for labour induction. Labour is an inevitable consequence of Pregnancy. Only two events can prevent the onset of labour once pregnancy has become well established – the death of the undelivered mother or surgical removal of the fetus aim of successful induction is to achieve vaginal delivery when continuation of pregnancy presents a threat to the life or well being of the mother or her unborn child.

Castor oil is one of the most popular methods for labour induction Castor oil has long been used throughout history. In some countries, castor oil is used to terminate pregnancy if it is unwanted or unplanned. Its probable mechanism is to stimulate labour following the secretion of prostaglandins,^{1,3,4} it may also lead to reflex stimulation of the uterus, and stimulation of the intestinal peristalsism.^{1,2,4,5}

The aim of this study was to investigate the effect of castor oil in the induction of labour in term pregnant women.

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II. AIMS AND OBJECTIVES

To assess the effect of castor oil in induction of labour.

III. INDUCTION OF LABOUR

Ian Donald stated that induced labour is 'the one in which pregnancy is terminated artificially any time after the period of viability by a method which aims to secure delivery via naturalis.

IV. MATERIAL AND METHODS

Source of Data: 190 Patients admitted to labour ward of OBG Dept of MDM JANANA WING DR. S. N. MEDICAL COLLEGE JODHPUR and Hospital with an indication for induction of labour.

Indications for Induction in Our Study 1. Mild pre eclampsia 2. Severe pre eclampsia 3. Post dated pregnancy 4. polyhydramnios 5. oligohydramnios 6. Gestational Diabetes Mellitus 7. Chronic hypertension 8. Rh negative Pregnancy.

Inclusion Criteria: All pregnant patients admitted for delivery having: 1. Singleton fetus with cephalic presentation. 2. Over 37 weeks of gestation 3. Reactive fetal heart pattern 4. Unfavorable cervix Bishop score ≤ 5. No contraindication to vaginal delivery willing to participate in the study.

Exclusion Criteria: All pregnant patients admitted for delivery having following were excluded 1. Mal presentation 2. Abnormal fetal heart rate pattern 3. Meconium stained amniotic fluid 4. Contraindication to vaginal delivery 5. Patients not willing to participate in the study.

V. SAMPLE SIZE

190 antenatal cases was taken who admitted in labour room for delivery. $N=4PQ/L^2$ P=Proportion of women at term who successfully induced with castor oil as a labour inducing agent, Q=100-P, L=Absolute allowable error.

VI. DATA ANALYSIS

To collect required information from eligible patients a pre-structured pre-tested Proforma was used. For data analysis Microsoft excel and statistical software SPSS was used and data were analyzed with the help of

frequencies, figures, proportions, measures of central tendency, appropriate statistical test

Method of Induction: This is a hospital based observational study which was conducted at Dr S N Medical College, Jodhpur, Rajasthan by evaluating the women who were admitted in our hospital (MDMH) for delivery. After informed consent had been obtained, the patients selected for the study were evaluated

Castor oil was administered in 2 doses form in 18-24hrs interval and every given dose is 50 ml (47.75gm) in 200 ml of warm milk. Antiemetic drug was given 30 minutes prior to administered castor oil to minimize nausea and vomiting. Inclusion criteria was gestational age between >37 to 42 weeks plus intact membranes or amniotic fluid index >4 and regular fetal

heart rate, normal fetal movements or reactive non stress test (NST), modified Bishop's score of ≤ 5 and estimated fetal weight 2.5 to 4kg.

A detailed clinical history were recorded and a thorough physical examination was performed at the time of presentation. Investigations like complete blood count, liver function test, kidney function test, random blood sugar, viral markers, serum electrolytes, urine routine microscopy done.

After castor oil ingestion patients were monitored for signs of labour maternal vital signs, fetal heart rate and progress of labour. The fetal heart rate was monitored by either intermittent auscultation or continuous fetal heart rate monitoring. A partogram was strictly maintained in all patients induced.

Table 1: Distribution of women according age distribution

| Age (in years) | Number | Percentage |
|---------------------------------|----------------------------------|----------------------------|
| 18 – 22 | 64 | 33.68 |
| 23 – 27 | 84 | 44.21 |
| 28 – 32 | 35 | 18.42 |
| 33 – 38 | 06 | 3.16 |
| >38 | 01 | 0.53 |
| Total | 190 | 100% |
| Mean \pm SD | 24.64\pm3.92 | Range – 18.00-40.00 |
| Median | 24.00 | |

Table 2: Distribution of the women according to Labour initiation

| Labour Initiation | Castor Oil Induction | Percentage |
|-------------------|----------------------|------------|
| YES | 110 | 57.8% |
| NO | 80 | 42.10% |

VII. RESULT

In table 1 shows that majority of women 84 (44.21%) delivered at our tertiary care centre belongs to age group 23-27 yrs.

In my study table no. 2 shows that the frequency of labor initiation in the castor oil user was 57.8% and according to various authors in their studies frequency of labor initiation after castor oil administration is as follow

| Authors and year | Frequency of labour initiation |
|----------------------------------|--------------------------------|
| Davis et al (1984) ¹ | 75% |
| Garry et al (2000) ³ | 57.7% |
| Azhari et al (2006) ⁶ | 54.2% |
| Boel et al (2009) ⁷ | 54.2% |
| Okoyo et al (2019) ⁸ | 57.1% |
| Present study | 57.8% |

The frequency of labor initiation in the castor oil user in my study is coinciding with the studies of Garry et al (2000)³, Azhari et al (2006)⁶, Boel et al (2009)⁷, and Okoyo et al (2019).⁸

Labour initiation in the castor oil user was 57.8% and the success of labour induction *and not to induce labor was observed in* 42.10%.

VIII. CONCLUSION

Castor oil are safe and effective for labour induction. Castor oil is cost-effective when compared to other inducing agents. Castor oil is stable at room temperature and does not need refrigeration.

In conclusion, we believe that Castor oil, is apparently safe, efficient and a cost-effective induction agent with no maternal and fetal side effects which may

become the drug of choice, for induction of labour in the coming years.

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