

<sup>1</sup> Rare Primary Paraovarian Adenocarcinoma in Postmenopausal  
<sup>2</sup> Woman: Case Report and Review

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<sup>6</sup> **Abstract**

<sup>7</sup> Malignant paratubal cancers have extremely rare occurrence and have not been sufficiently  
<sup>8</sup> described and discussed in literature. We describe case of an 80 years old gravida 5 para 4  
<sup>9</sup> postmenopausal woman presented with pain in lower abdomen and spotting per vagina. USG  
<sup>10</sup> followed by MRI showed large mid pelvic right adnexal complex predominantly cystic lesion of  
<sup>11</sup> 8.7x7.1x5.9 cm size with small exophytic solid component (3.1x2.8x2.6 cm). Postoperatively it  
<sup>12</sup> was diagnosed as a case of high grade paratubal adenocarcinoma (stage T1N0M0). The  
<sup>13</sup> patient received 3 cycles of adjuvant chemotherapy with carboplatin and docetaxel. Patient  
<sup>14</sup> has had no recurrence till date (20 months post treatment).

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<sup>16</sup> **Index terms**— Paratubal adenocarcinoma, adnexal complex, primary tumour, broad ligament.

<sup>17</sup> **1 Introduction**

<sup>18</sup> Primary paraovarian malignancy is an extremely rare condition, so much so that very little is known about  
<sup>19</sup> their epidemiology, biological behaviour, prognosis, protocols for diagnosis and management. The incidence of  
<sup>20</sup> paraovarian malignancy is also not known<sup>16</sup>. Very few cases have been reported in literature till date. We hereby  
<sup>21</sup> present, to the best of our knowledge, the oldest patient in literature with pain in lower abdomen for last one and  
<sup>22</sup> a half year and vaginal spotting for last 4 days. Patient was menopausal for last 30 years. On pelvic examination,  
<sup>23</sup> cervix and vagina were assessed to be normal, uterus was normal and anteverted, a cystic mass of approximately  
<sup>24</sup> 6x6 cm in size was felt close to uterus, and POD was free. USG was suggestive of thin walled anechoic cystic  
<sup>25</sup> mass on right side, 8x6x6 cm with few internal septae. MRI pelvis showed large midpelvic right adnexal complex  
<sup>26</sup> predominantly cystic lesion of size 8.7 x 7.1 x5.9 cm with small exophytic solid component (3.1x2.8x2.6 cm). The  
<sup>27</sup> exophytic solid component was focally indenting anterior rectal wall with no apparent infiltration. Endometrial  
<sup>28</sup> thickness was 1.7 mm, smooth regular margins and fluid -fluid levels were seen. Endometrial curettage was done  
<sup>29</sup> and histopathology report showed senile endometrium. Her serum CA125 level was normal.

<sup>30</sup> Patient underwent exploratory laparotomy. No ascites or peritoneal implants were seen. Peritoneal wash was  
<sup>31</sup> sent for cytological examination. Both the ovaries, fallopian tubes and the uterus were normal in appearance.  
<sup>32</sup> A large paraovarian cystic mass measuring 8x6x4cm was seen on right side with right fallopian tube stretched  
<sup>33</sup> over it. TAH with BSO with cystectomy was done. Full biochemical and radiological examinations showed no  
<sup>34</sup> evidence of metastasis or any other disease process. We staged the primary paraovarian tumour as T1aN0M0.  
<sup>35</sup> Five weeks later, patient underwent 3 cycles of adjuvant chemotherapy with carboplatin and docetaxel. Patient  
<sup>36</sup> is doing well in follow up visits till date (20 months post treatment).

<sup>37</sup> **2 III.**

<sup>38</sup> **3 Pathology**

<sup>39</sup> On postsurgical examination, peritoneal fluid cytology showed no evidence of malignancy. On macroscopic  
<sup>40</sup> examination, paraovarian cyst was found to be uniloculated, filled with thin hemorrhagic fluid and a firm,  
<sup>41</sup> greyish white nodule measuring 3x2.5x2 cm was seen in the wall of the cyst, which on cut surface was grey  
<sup>42</sup> white, granular with large areas of necrosis. Rest of the cyst wall had smooth inner surface with foci of  
<sup>43</sup> hemorrhages. No tumour was found in the bilateral ovaries and fallopian tubes. Microscopic examination of

## 5 CONCLUSION

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44 the right adnexal mass revealed malignant tumour with solid and tubulocystic pattern with cells lining the  
45 tubules having hobnail appearance. There was marked pleomorphism in the neoplastic cells in the solid area  
46 suggestive of high grade serous adenocarcinoma from paraovarian cyst (Fig. 1 and 2). Large areas of necrosis and  
47 stromal lymphocytic infiltration were seen. Sections of the cyst wall showed columnar to cuboidal to flattened cell  
48 lining with underlying fibrosis and infiltration by hemosiderin laden macrophages. There was no lymphovascular  
49 space invasion. Endomyometrium showed senile cystic atrophy with atrophic myometrium. Bilateral fallopian  
50 tubes and ovaries were unremarkable.

## 51 4 Discussion

52 Secondary tumours in broad ligament are not uncommon but primary tumours are rare. Commonly seen primary  
53 tumours are leiomyomata, serous and papillary cystadenoma of borderline malignancy but primary malignant  
54 tumours are very rare 9 . Primary broad ligament carcinoma as mesonephroma was first reported by Schiller in  
55 1939 1 .

56 In our case primary tumour was located in or on the broad ligament and completely separated from ipsilateral  
57 ovary, fallopian tube, and uterus. This satisfies the criteria given by Gardner et al in 1957 to diagnose primary  
58 carcinoma of broad ligament origin 4 .

59 The age range in reported cases of broad ligament malignant tumours is 13 to 80 years (median 43 years) and  
60 the age range of borderline below the age of 40 years. To the best of our knowledge, ours (80 years) is the oldest  
61 case reported in the literature. In contrast, mean age of ovarian cancer is 63 years, being rare in women below  
62 40 years 18 and mean age of borderline ovarian tumours is 10 years lower 19 .

63 Five were clear cell carcinoma (20.8%), two were papillary adenocarcinoma (8.3%), four were endometroid  
64 (16.6%), five including ours were serous adenocarcinoma (20.8%), one was mucinous carcinoma (4.1%), and one  
65 was well differentiated adenocarcinoma (4.1%) and five were borderline serous cystadenoma (20.8%) (Table 1).

66 Most common presenting symptoms reported are lower abdominal pain and pelvic discomfort 15 like in our  
67 case. Moreover, our patient also presented with vaginal spotting. Although most common cause for vaginal  
68 spotting in post-menopausal age group is senile endometritis 20 , there is a possibility of associated Hence it is  
69 important to rule out endometrial cancer in scenarios of vaginal spotting for postmenopausal women. In our case  
70 endometrial cancer was ruled out by endometrial curettage. It is to be noted that presentation of broad ligament  
71 tumour can be an incidental finding as well 9 . There is a 1.4 % to 3.8% chance of synchronous tumour of ovary  
72 and endometrium 20 but similar data about broad ligament tumour is not known due to rarity of cases. All the  
73 reported cases of broad ligament tumour (Table 1) including borderline variety were unilateral, in contrast to  
74 ovarian tumour which are 25% bilateral 21 .

75 For fourteen cases (58%) including ours, patients were diagnosed in stage 1 of broad ligament tumour. Two  
76 cases (8.3%) were diagnosed in stage 2, while three cases (12.5%) were diagnosed in stage 3. Staging was not  
77 known for the remaining five cases (20.8%). It is to be noted that majority of the cases, including our case, were  
78 diagnosed in stage 1. Possible reason for the same is that tumours are encapsulated between the sheets of broad  
79 ligament. Thus rupture as well as aggressive progression is prevented due to lack of vasculature 22 .

80 Management of broad ligament tumour is often done in a similar way as that of ovarian cancer because of  
81 similarities in histology and histogenesis, i.e. commonality in coelomic epithelium 10 . Post-surgical adjuvant  
82 treatment is not established as the standard procedure due to lack of evidence. It is recommended to use same  
83 principles as followed in the management of ovarian cancer 15 . Of the 24 cases, surgery was the singular mode  
84 of treatment in eleven cases (46%), surgery followed by chemotherapy in eight cases including our case (33%),  
85 surgery followed by radiotherapy in four cases (17%) while only radiotherapy was used in one case (4%).

## 86 5 Conclusion

87 Survival rates and prognostic factors are inconclusive due to rarity of the tumour, lack of uniformity in treatment  
88 modalities and improper reporting. Similar to cases of ovarian cancer, follow up is important to look for relapse  
89 or any residual disease left after adjuvant therapy.

90 We recommend that such rare cases be reported in literature so that consensus on diagnosis and management  
91 can be evolved and established.

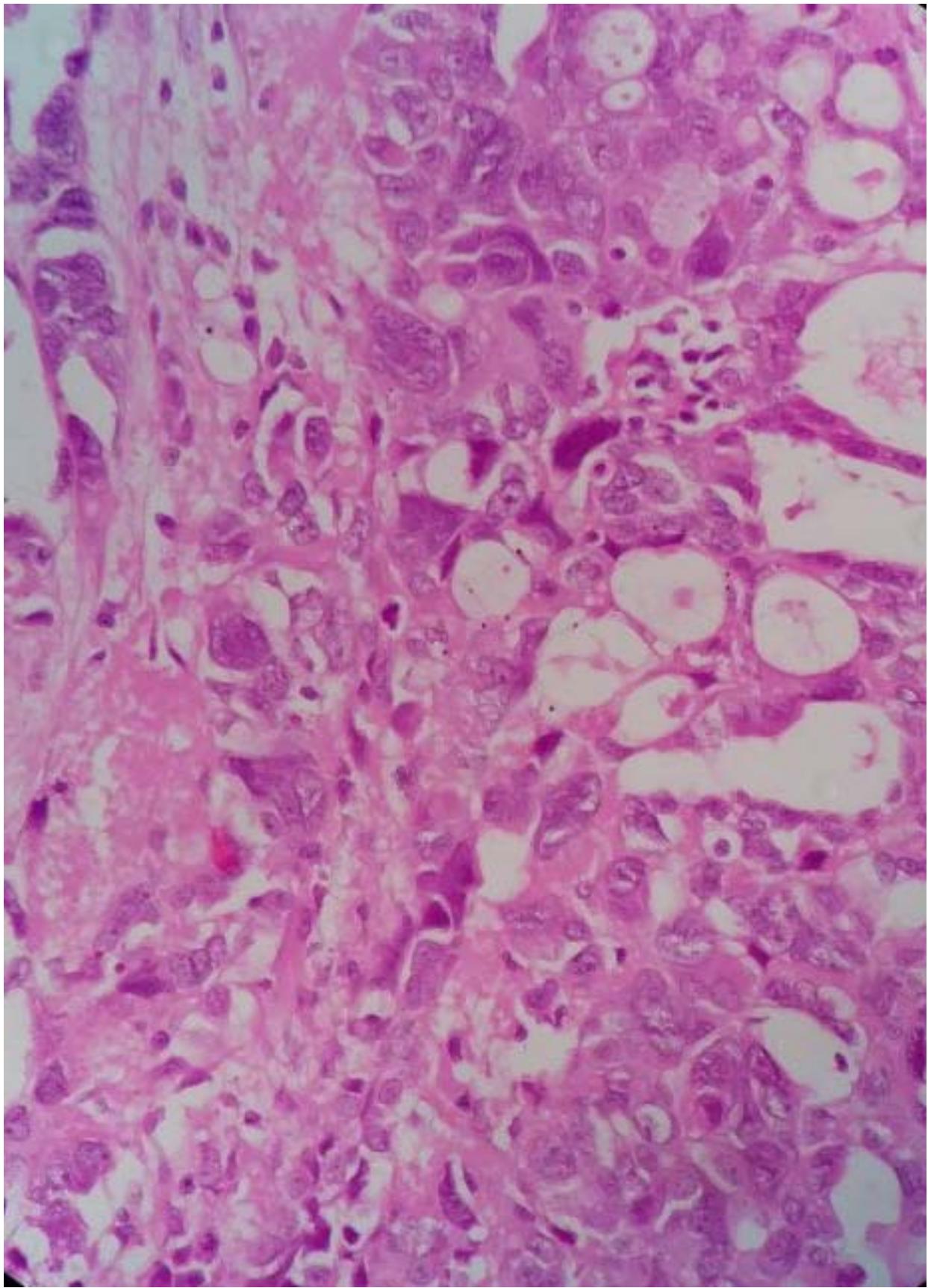


Figure 1:

## 5 CONCLUSION

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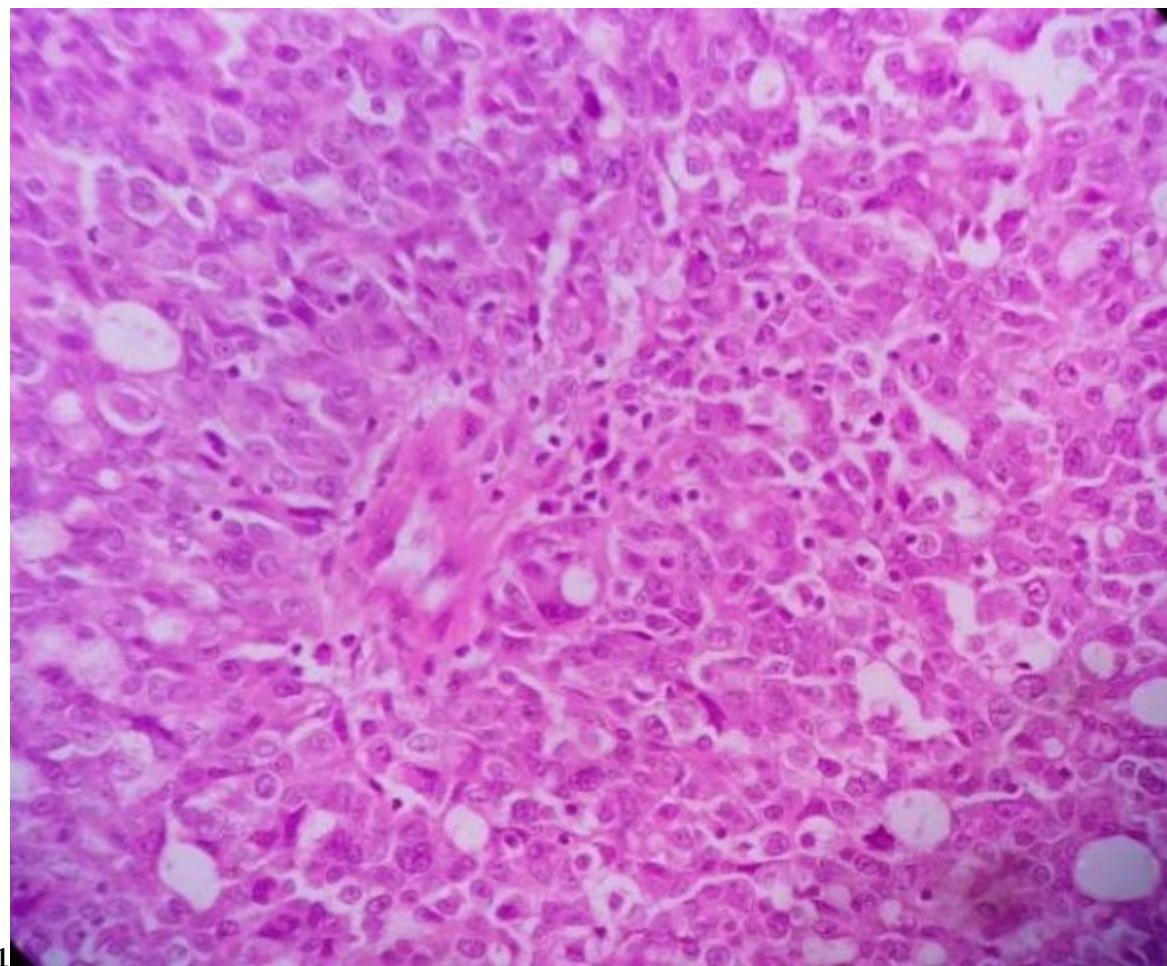


Figure 2: Fig. 1

## 1

S. No.	Author (year)	Age (years)	Size (cm)	Pathological diagnosis	Treatment	Follow up	stage	
1	Schiller (1939)	1	43	Child's head	Clear cell	TAH+BSO, Radiotherapy	Live, 24 months	1
2	Lennox (1952)	2	45	7x6.5x6	Papillary adenocarcinoma	TAH+BSO, Radiotherapy	Live, 10 months	1
3	Telium (1954)	3	62	Fist size	Clear cell	Enucleation	Not known	2
4	Telium (1954)	3	32	10x8x8	Clear cell	Enucleation	Not known	1
5	Gardner (1957)	4	50	-	Well differentiated adenocarcinoma	Radiotherapy	Live, 27 months	-
6	Merril (1959)	5	70	13	Papillary adenocarcinoma	TAH+BSO, Radiotherapy	Live, 12 months	2
7	Czernobilsky 6 (1972)	29	5x4x4	LMP Serous	TAH+BSO	Not known	1	
8	Genadry (1977)	7	13	9x6	Serous adenocarcinoma	Adnexectomy	Live, 60 months	-
9	Genadry (1977)	7	38	9x6	LMP Serous	Adnexectomy	Live, 60 months	-
10	Genadry (1977)	7	36	9x6	LMP Serous	Adnexectomy	Live, 60 months	-
11	Genadry (1977)	7	28	9x6	LMP Serous	Adnexectomy	Not known	-
12	Clark (1979)	8	29	8x7x2	Mucinous adenocarcinoma	TAH+BSO+ omentectomy	Not known	1
13	Aslani 9 (1989)	9	51	10x6x6	Clear cell	Excision+BSO+ omentectomy, Radiotherapy	Live, 7 months	1
14	Aslani 9 (1989)	9	29	6x6x5	Endometrioid	Excision+TAH+BSO, inguinal and paraaortic lymph node sampling, Chemotherapy	Live, 18 months	1
15	Aslani (1989)	9	69	11x8	Endometrioid	Excision of tumor + TAH+BSO, Chemotherapy	Live, 12 months	1
16	Aslani (1989)	9	34	4.5x4x3	Endometrioid	TAH+BSO+ pelvic and paraaortic lymph node dissection+ omentectomy, Chemotherapy	Live, 6 months	1
17	Altaras (1990)	11	76	12x9x8	Serous	TAH+BSO	Live, 53 months	1

Figure 3: Table 1 :

## **5 CONCLUSION**

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