

Malignancy in mature cystic teratoma of the ovary: A rarity

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Abstract

Mature cystic teratomas (MCTs) are the most commonly seen germ cell tumors of the ovaries. In postmenopausal women, they mostly undergo malignant. The most commonly seen malignancy in these type of germ cell tumors is squamous cell carcinoma of the ovary. An 83-year-old postmenopausal woman presented to us with a similar but rare clinical course that is discussed here.

Keywords: Mature cystic teratoma; Squamous cell carcinoma; Germ cell tumour

Introduction

It has been reported that only 2% of the cases diagnosed with mature cystic teratoma undergo a malignant change [1]. 75% of these cases with this type of germ cell tumor are further diagnosed to have squamous cell carcinoma [2]. The survival rate in these cases is around 15 to 30% over a period of 5 years [3]. The staging and histopathology report do not seem to have an effect on the survival rates. Management of these tumors is surgery.

Also, the prognosis can be improved with adjuvant radiotherapy and polychemotherapy. The women who commonly undergo this malignant transformation are in the postmenopausal age group [4]. There are no specific tumor markers for this condition. Thus, a postoperative diagnosis is made most of the times [5]. The case report which is presented below is about the rare malignant transformation in mature cystic teratoma of the ovary in an eighty three year old postmenopausal women.

Case Report

A women 83 years old para 10 live 4 (P10L4) was referred to our hospital with the complaint of inability to walk since 5 months. She was admitted in the neurosurgery department and MRI showed a large well defined cystic lesion in the region of the POD (pouch of douglas) measuring 10.9*9.1*9 cms.

The lesion showed fat fluid level with few thick septations within. There was a focal solid component attached posteriorly measuring 1.9*2.4*2.2 cms. Features were suggestive of teratoma possibly mature teratoma. There was also collapse of L5 vertebra with fracture of the superior endplate and marrow edema in fracture region.

Patient was then shifted to Gynecology ward with the diagnosis of pelvic mass with vertebral metastasis. She also had mild pain lower abdomen with urinary incontinence since a year. She was P₁₀L₄ with all normal vaginal deliveries and menopausal since 27 years.

Per abdomen examination showed abdominal distension with suprapubic mass of about 14cm x16 cm irregular and firm in consistency, mobility was restricted, lower margin could not be appreciated. On per speculum examination, vagina was atrophied and cervix could not be visualized. Per vaginum examination showed bilateral fornices full with stony hard lump of around 14 to 16 weeks.

Manuscript received: 6th March 2017
Reviewed: 16th March 2017
Author Corrected: 25th March 2017
Accepted for Publication: 31st March 2017

Case Report**Investigations.**

Tests	Values	Normal values
CEA2	35.44ng/ml	<=3ng/ml
OV125	58.7U/ml	0-35 U/ml
LDH	162	140-280 U/L
Beta HcG	3.7mIU/ml	<5mIU/ml
Alpha Feto protien	2.26	<10 ng/ml
Pap smear	Low grade intraepithelial lesion	NILM
Hb,PCV	12.3 gm%,36.7%	12-15.5 gm%, 36-48%
TLC	5200	4000-10,000
ECHO,ECG	Normal	-
RBS	114 mg/dl	<200mg/dl
Urea, Creat	21,0.6 mg/dl	7-20 mg/dl, 0.6-1.1 mg/dl
SGOT,SGPT	14,10 U/l	5-40 U/l, 7-56 U/l

Patient was then taken up for surgery. Total abdominal hysterectomy with bilateral salpingo-oophorectomy under general anaesthesia was done. Intraoperatively, uterus was atrophied, right ovary showed a dermoid cyst of 8*9 cms that was adherent to the pouch of douglas. Left side showed a solid cyst teratoma of 3*2cms.

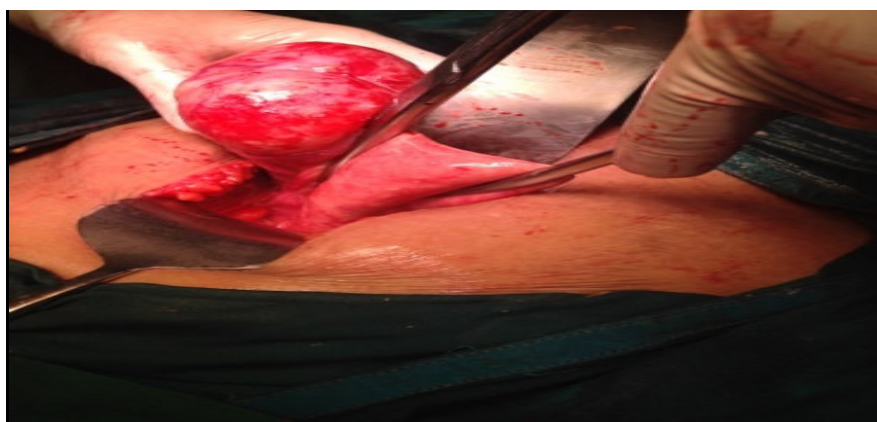


Fig.-1: Intraoperative picture of the tumour and diseased ovary

Histopathology report showed right ovarian teratoma with malignant transformation of epithelial component into squamous cell carcinoma, left ovarian mature cystic teratoma with atrophied uterus and chronic cervicitis with squamous metaplasia. Bilateral fallopian tubes were unremarkable.

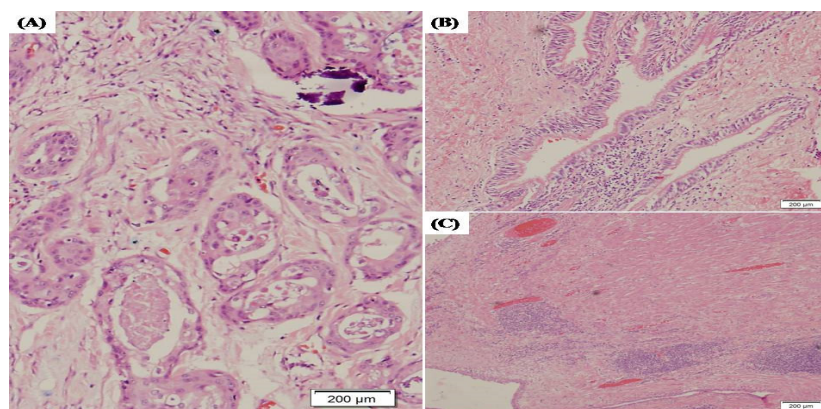


Fig.2: A- Squamous cell carcinoma (H & E, 200X), B-Benign epithelial component (H&E, 40X), C-Benign mesenchymal component (H&E, 40X)

Case Report

Patient was then started on anti tubercular therapy for L4 L5 tubercular diskitis. No sign of metastasis was seen. She was also advised short course of postoperative chemotherapy and regular follow up.

Discussion

Desouki MM et al [6] in their study reviewed medical records of patients diagnosed with ovarian teratomas from 2002 to 2011. Out of the 956 patients diagnosed with ovarian teratoma in their study, only 316 patients that is 33.1% underwent an intraoperative consultation, out of which 211 cases that is 66.8% were taken up for gross evaluation intrapoperatively. Out of these 211 cases, 4 were found to be malignant on final diagnosis. Also, frozen section was taken for 105 patients (33.2%) of the 316 patients and 12 were malignant on final diagnosis.

Thus, a total of 26 patients that is 2.7% were found to be malignant and the average age of these patients was 48.7 years. In this study, the mucinous and serous borderline tumors were more common and not squamous cell carcinomas.

Also, a study was conducted by JS et al [7] from January 1961 to June 2009 on 44 patients with a diagnosis of mature cystic teratoma of the ovary. These patients had a median age of 48 years, and the mean size of the tumor was 16+-6 cms. Out of the 44 patients, 37 cases were found to be malignant, and in these 37 patients, 32 were diagnosed with squamous cell carcinoma that is 73%. The other 5 cases had increased levels of squamous cell carcinoma antigen. 3 of the 37 cases were diagnosed to be malignant on image examinations that is 8%. 22 patients were diagnosed with unilateral involvement of the ovary, in which 10 had an intact capsule and 12 had ruptured capsule. Also, 22 patients had disease extension beyond the ovaries, and 27 patients were not found to have any residual disease after primary surgery. The survival rates of patients with residual disease was 10 months and without residual disease was 84 months.

Case reports of various types have also been published from all around the world. Kahraman K et al [8] reviewed a similar case along with synchronous occurrence of endometrial adenocarcinoma.

Kalampokas E [9] et al also studied the same in a 53 year old premenopausal women. Do VT [10] et al reported the same condition in a 44 year old female who received chemotherapy and pelvic radiotherapy for the tumor. After 3 years of follow up, no residual disease or any complication was seen.

In our case report, the age of the patient was 83 years and the presentation was bilateral although malignant transformation was confined to only one ovary.

Conclusion

A timely diagnosis with prompt management can help in improving the prognosis of this rare malignant transformation seen in mature cystic teratoma of the ovary. Also, postoperative chemotherapy and radiotherapy can help in reducing the incidence of any residual disease or complications.

Funding: Nil, **Conflict of interest:** Nil

Permission from IRB: Yes

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How to cite this article?

Das A, Panda S, Nandwani M, Singh S.A, Marbaniang E. Malignancy in mature cystic teratoma of the ovary: A rarity. *Obs Rev:J obstet Gynecol* 2017;3(1):13-16.doi: 10.17511/joog.2017.i01.03.

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