

Case Study- Teratoma of Greater Omentum Presenting the Right Iliac Fossa Mass

Brigida S¹, Parijatham S², Lakshmi Prabha M³ and Saravanan K^{*4}

¹Department of Pharmacology, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research (BIHER), Chennai, Tamil Nadu, India

²Department of Physiology, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research (BIHER), Chennai, Tamil Nadu, India

³Department of Psychiatry, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research (BIHER), Chennai, Tamil Nadu, India

⁴Department of Radiodiagnosis, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research (BIHER), Chennai, Tamil Nadu, India

Corresponding author: Saravanan.k@bharathuniv.ac.in

ABSTRACT

Mature teratomas (benign cystic teratomas or dermoid cysts) are the most common ovarian germ cell tumors. However, teratomas of the omentum are extremely rare. For example, only 29 cases of Teratoma of the greater omentum (TGO) have been reported worldwide.

Keyword: Teratoma, Ovarian germ cell tumors, Right Iliac Fossa Mass.

Case Report

A 44 -year-old female with previous history of (H/O) appendectomy done 2 years ago, came with complaints of pain in right iliac fossa (RIF) (dull aching, not related to food intake) for 1 month and vague fullness over the same site for 20 days. No history of vomiting, hematemesis is, Malena, fever, constipation/diarrhea, loss of weight/appetite. There was no H/O contact with tuberculosis (TB). Her menstrual cycle and flow are normal.

She is married, P2 L2 A0, sterilization done 12 years back. Her general examination and vital signs were normal. Abdominal examination showed an irregular, tender, firm, immobile 6x4 cm RIF mass with lower border felt. McBurney scar in RIF was present. There was no ascites. Per vaginal and per rectal examinations were normal. The examination of other systems (cardiovascular, respiratory, central nervous system) was also normal. Provisional diagnosis was Ileocecal TB/right ovarian tumor.

Her basic investigations (complete blood count, renal parameters, chest x ray, and echo) were normal. Mantoux test was negative. USG and CECT abdomen and pelvis showed an ill-defined mixed echogenic solid and cystic lesion in RIF, probably arising from small bowel mesentery (Liposarcoma). Right ovary could not be visualized, uterus, bladder, kidneys, left ovary-normal. No ascites/liver, spleen, pancreas- normal. Impression-small bowel mesentery tumor ovarian tumor. Colonoscopy, Upper gastrointestinal endoscopy was normal. CA 125, CEA, AFP levels were normal. Pre-operative diagnosis was Ovarian Tumor/ Small Bowel Mesentery Tumor. The patient was posted for an elective laparotomy after obtaining consent for hysterectomy and B/L salphingo oophorectomy. Midline laparotomy showed an 8x6 cm bluish-grey solid and cystic lesion in RIF attached to the greater omentum without any adhesions to bowel/viscera. The right ovary and appendix were absent. Left ovary, uterus, Liver, stomach, bladder, small and large bowel were normal. No ascites and any other omental deposits were found. Excision of the lesion with attached omentum (partial omentectomy) was done.

Discussion

Apart from the ovary being the most standard site, the other sites of occurrence for teratoma, in decreasing order of frequency, is sacrococcygeal region, neck, mediastinum, and abdominal and oral cavities. Cystic teratomas have rarely been reported in the greater omentum (Saravanan, 2017). It is generally accepted that teratomas arise from germ cells in mature gonads. During early fetal development, germ cells from the yolk sac migrate along the hindgut (route of the mesentery) toward the genital ridge (primitive gonad). These

totipotential cells may give rise to various tissues originating from the 3 primitive embryonic layers. Migration along the hindgut explains how teratomas may develop in multiple locations (Can, 2009).

Lebert described the first omental dermoid cyst in 1734. Teratomas of the greater omentum have been reported more frequently in women. They are typically found in women of reproductive age, but may also appear in young girls and in older women. Mumley and colleagues, in 1928, reported a 16.7% occurrence rate of these tumours in men.

The etiology of omental teratomas is poorly understood, but 3 main theories have been proposed to explain their location

(1): Primary teratomas of the omentum may originate from displaced germ cells.

Teratomas may develop in a supernumerary ovary of the omentum.

2.) Teratomas may result from autoamputation of an ovarian dermoid cyst with secondary implantation into the greater omentum.

For the first theory, no pathological evidence for omental ectopic germ cells

has ever been found. The weakness of the second hypothesis is the fact that no case of a normally structured ovary of the greater omentum has ever been reported.

3.) The third hypothesis seems to be the most plausible

according to most cases, because of the association between mature teratoma of the greater omentum and pathological evidence of ovarian stroma, coexistent unilateral teratoma in the ovary (9 cases) or absent ovary (in 9 cases)

(1). Today, all 3 hypotheses should be considered. They are classified histologically into MATURE (solid, cystic) and IMMATURE teratomas.

The prognosis depends on the degree of maturation along the normal lines of differentiation. It is difficult to establish a diagnosis preoperatively. The definitive diagnostic finding is the presence of intratumoral

fat and calcification, Computerised Tomography (CT) is the diagnostic modality of choice.

Differential diagnoses are Duplication cysts, Cystic mesothelioma, Cystic

lymphangioma and Liposarcoma. Teratomas of the greater omentum are usually benign, but malignant transformation has also been described (Ushakov *et al.*, 1998). Incidence of malignancy in benign teratoma is 1-2%. It usually occurs in postmenopausal women and it is commonly of squamous cell carcinoma type. Surgery for benign mature teratoma requires Unilateral ovariectomy and follow up. Pathological examination must differentiate between mature and immature teratoma. Immature teratomas are potentially malignant, so the patient may require Chemotherapy (BEP regimen) and Radiotherapy.

Author contribution

Brigida S, Parijatham S, Lakshmi Prabha M and Saravanan K encouraged and supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

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Study significance: Surgery for benign mature teratoma requires Unilateral ovariectomy and follow-up. Pathological examination must differentiate between mature and immature teratoma. Immature teratomas are potentially malignant, so the patient may require Chemotherapy (BEP regimen) and Radiotherapy.

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