

# Malignant Transformation in a Dermoid Cyst: Case Report

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**Abstract:** *Dermoid cyst (mature cystic teratoma) consists of well differentiated derivatives of three germ cell layers. They account for 20 % of all ovarian tumors. In its pure form these tumours are invariably benign in 95 % cases with wide age distribution. However as a rare complication malignant transformation may occur in approximately 1-2 % dermoid cysts. Most common malignancy being squamous cell carcinoma (SCC). Clinically malignant transformation cannot be identified readily as the diagnostic accuracy of ultrasound, MRI and CT is still debated. We report a case of this rare condition to highlight the features such a rapid increase in size, age >45 years, serum marker assays, some sonographic & radiological findings which should raise suspicion of malignancy when dermoids are encountered to help to make appropriate decision for choice of surgery & to ensure the correct staging of tumor so that appropriate post operative adjuvant chemotherapy is prescribed in an attempt to improve the poor prognosis.*

**Keywords:** dermoid cyst, malignant transformation, squamous cell carcinoma

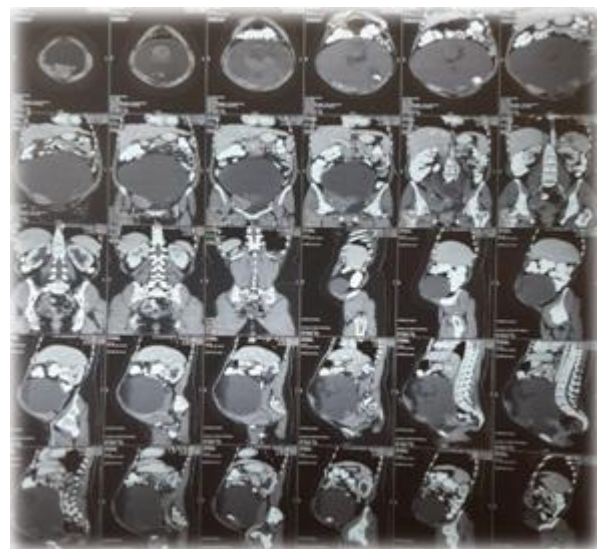
## 1. Case Description

A 44 year old female P1L1 (LSCS) came with c/o heaviness and fullness in lower abdomen since 2-3 months a/w increased frequency of micturition. There was no significant personal or family history. On per abdominal examination soft cystic mass reaching above umbilicus was felt.

Blood investigations were done. Ca 125-32.15, Hb-9.6 gm/dl, rest all pre-op investigations were normal. USG report was s/o solid cystic lesion with calcification arising from left ovary: dermoid cyst of ~ 20 x 17 x 20.3 cm. CT Scan (Fig 1) S/O large left ovarian dermoid causing mass effect & B/L mild hydroureteronephrosis with no e/o lymphadenopathy.

Exploratory laparotomy was done. Intra-op there was e/o large mass arising from left ovary in close proximation to ureter, Blunt & sharp dissection done to separate the mass but therewas inadvertent rupture of cyst with spillage of fluid. Total abdominal hysterectomy with B/L salpingo-oophorectomy done & specimen sent for histopathological examination which showed moderately differentiated invasive squamous cell carcinoma (grade2) arising within left ovarian dermoid cyst (outer surface not breached).

On follow up after 1 month PET-CT done which was s/o minimal ascites, nodular omental thickening & perihepatic metastasis. Also pelvic deposits were seen on operated bed. Patient was referred to oncologist for further chemotherapy.



**Figure 1:** PRE-OP CT Image



Figure 2: Post OP Uterus with Dermoid Cyst & Its Content



Figure 3: Pet Scan Showing Perihepatic and Pelvic Metastasis

## 2. Discussion

Squamous cell carcinoma arising from dermoid cyst is a rare pathologic event that is not diagnosed preoperatively. Patient age, serum markers, tumor diameter & some radiological findings such as elderly age group >50 years, raised ca-125, tumor size > 10 cm, presence of large solid component resp., could be useful to identify a subset dermoid cyst with high risk of malignant transformation.

The standard primary treatment consist of Total hysterectomy with bilateral salphingoophorectomy and comprehensive surgical staging (peritoneal washing, omentectomy, appendectomy, peritoneal biopsies & pelvic plus paraaorticlymphadenectomy in early disease & operative cytoreductive surgery in advanced diseases. In patients with advanced disease adjuvant chemotherapy is warranted. The optimal adjuvant therapy has not yet been systematically assessed. As per literature, unlike SCCs of

uterine cervix, postoperative adjuvant chemotherapy may produce better results than radiotherapy. Currently combination of paclitaxel & carboplatin is most commonly adopted regimen.

Squamous cell carcinoma of the ovary have a significantly worse outcome compared with that of the common epithelial ovarian cancers with 5 year survival rate ranging from 28 to 66.7%. Tumor stage & bulking status are the strongest prognostic variables.

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