# Primary Fallopian Tube Carcinoma Mimicking Tuberculosis: A Case Report

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## Abstract

Primary fallopian tube carcinoma (PFTC) is a rare gynaecological malignancy. It presents as adnexal mass or tubo-ovarian abscess. It is rarely diagnosed preoperatively as there are no specific symptoms. PFTC resembles ovarian carcinoma both histologically and clinically. Although the aetiology of this tumour is unknown, it may be associated with chronic tubal inflammation, infertility, tuberculous salpingitis and tubal endometriosis. Very few cases of PFTC have been reported till date. Here we report a case of 50-year-old menopausal female with PFTC.

**Keywords:** Gynaecological malignancy, Primary fallopian tube carcinoma, Tubo-ovarian mass.

## Introduction

Primary fallopian tube carcinoma (PFTC) is extremely rare. Tumour accounts for approximately 0.14-1.8% of all female genital malignancies(1). The first classic case was reported in 1886 by Orthmann(2). Aetiology is unknown. It arises in postmenopausal women with a wide age range having a mean of 52 years. Clinically tubal carcinoma closely resembles ovarian carcinoma. Bilateral involvement occurs in about 20% of cases(3). Metastasis of fallopian tube carcinoma occurs via haematogenous, lymphatic, and peritoneal routes as well as via direct extension. Nulliparous women appear to be at a higher risk for developing PFTC(4). The typical presenting symptoms include abdominal pelvic pain or symptoms of pressure and vaginal bleeding(5). This bleeding is frequently associated with a watery vaginal discharge. 'Hydrops tubaeprofluens' is a syndrome that's characterized by intermittent colicky lower abdominal pain and this relieved by a profuse, serous, watery, yellow discharge from the vagina. This is thought to be caused by filling and emptying of a partially blocked fallopian tube. However, a correct diagnosis is rarely achieved preoperative, and in many cases, the diagnosis is made after incidental surgery for unrelated conditions(6). Management of PFTC is same as ovarian cancer but has worse prognosis(7). We report here a case of PFTC that clinically presented as tuberculosis andwas incidentally detected on histopathological examination.

## Case History

A 54-year-old multiparous female presented with history of pain in lower abdomen and evening rise in temperature since 10 days. Pain was continuous, dull aching, aggravated on movements and did not relieve on medication. She was previously treated for tuberculosis around 8 years back. She achieved menopause 5 years back. On examination, abdomen was soft. Tenderness was present over right and left iliac region, rebound tenderness and guarding rigidity and abdominal distension was present. There was no organomegaly. Ultrasonography of abdomen stated a large intramural fibroid along with tubo-ovarian mass and mild ascitesseen due to abdominal Koch. CECT scan abdomen also showed similar finding. FNAC from left tubo-overian mass revealed a malignant surface epithelial tumour. Ascitic fluid was positive for malignant cells. She underwent total abdominal hysterectomy. Intra-operative findings were enlarged left tube measuring 4cm x 3cm, papillary projections were present on surface of left tube. Nodule was present on serosa of bladder along with omental thickening.

In our pathology department we received specimen of total abdominal hysterectomy along with omental cake and peritonealbiopsy.

Hysterectomy specimen (Fig. 1) measured 5cm x 3cm x 2.2cm. Gross examination showed intramural and submucosal fibroid measuring 3.8cm x 3.6cm. Left adnexa was congested, brownish black measuring 4cm x 3cm x 1cm. Left tube was dilated and on cut surface was thickened and contained friable material (Fig. 2). Left ovary was atrophic. Endometrium was thinned out. Right adnexa and cervix grossly appeared normal.

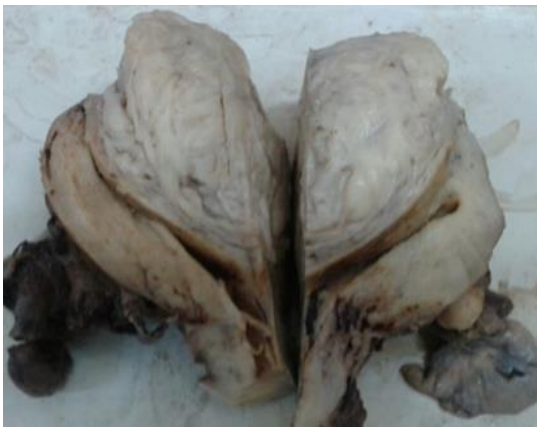

**Fig. 1: Gross: Uterus with bilateral adnexa and large fibroid**

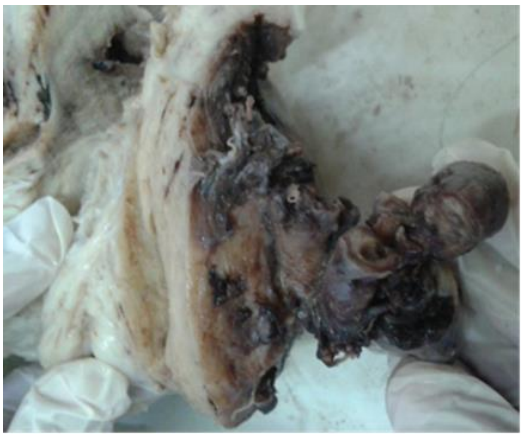

**Fig. 2: Left fallopian tube: Dilated, thickened and contained friable material**

The slide view from the tubo-ovarian mass showed a dilated tube with papillary extensions arising from the mucosa (Fig. 3).

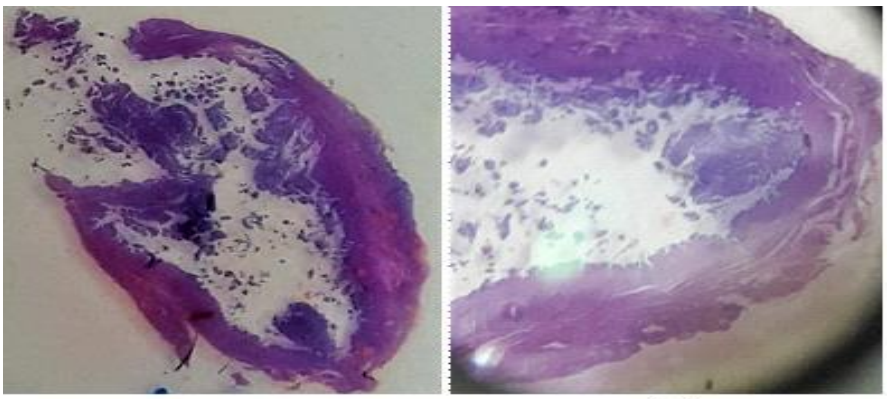


**Fig. 3 (a) and (b): Slide view showing dilated tube with papillary extensions**

On microscopic examination, left tube showed tumour arising from mucosa. Tumour cells were arranged in papillary pattern with fibrovascular core in centre (Fig. 4).

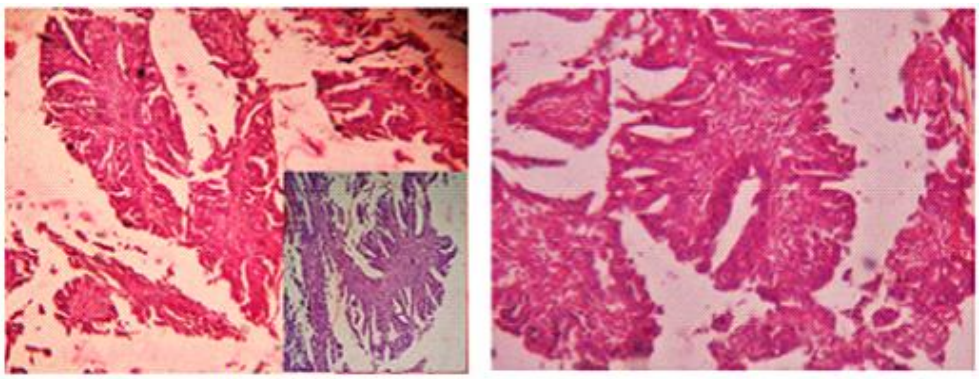


**Fig. 4: Low power view showing papillary arrangement of tumor cells with fibrovascularcore in center**

Tumour cells had high NC ratio, enlarge nuclei with vesicular or irregularly clumped chromatin and prominent nucleoli. Many mitotic figures were present (Fig. 5).

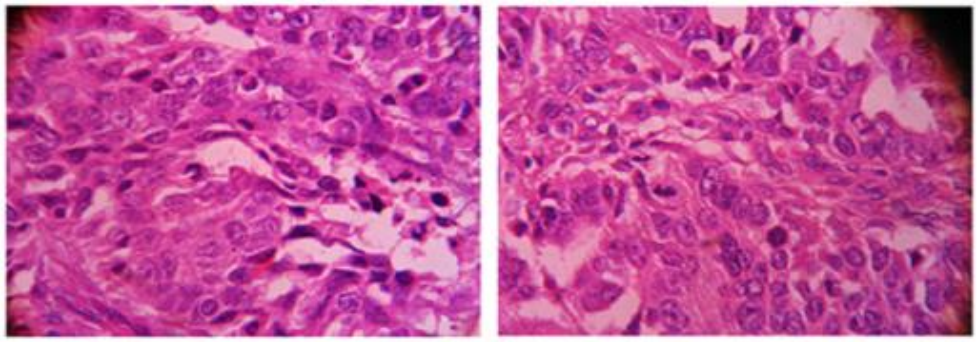


**Fig. 5*:* Multiple mitotic figures**

Tumour cells were extending up to serosal layer (Fig. 6). Angio invasion and areas of comedo necrosis was also seen (Fig. 7). Isthmus end of left fallopian tube showed dysplastic epithelium with hyperchromatic nuclei (Fig. 8). Left ovary showed a follicular cyst with no tumour deposit. Endometrium was atrophic with no tumour deposit seen. Myometrium showed leiomyoma. Cervix showed chronic cervicitis. Right tube and ovary were unremarkable. Thus diagnosis of PFTC was yield.

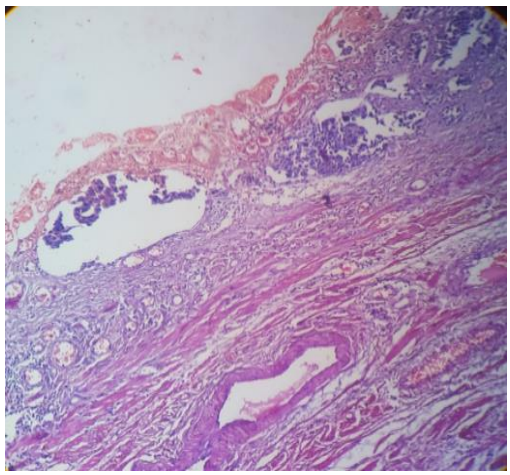

**Fig. 6: Tumour invasion seen up to serosal layer of fallopian tube**

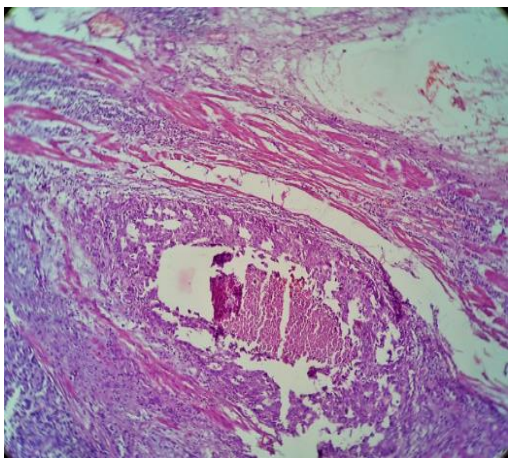

**Fig. 7: Comedo necrosis**

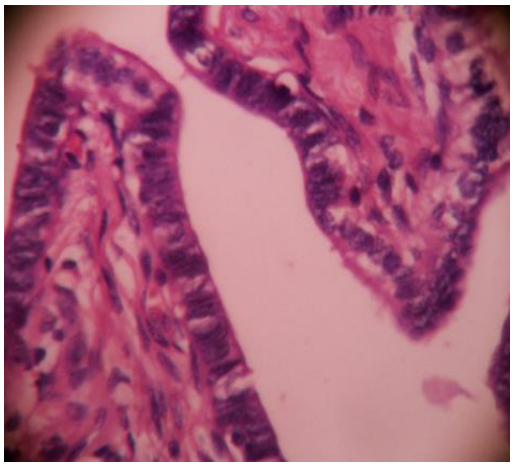

**Fig. 8: Isthmic end of tube: Dysplastic epithelium with hyper chromatic nuclei**

## Discussion

Fallopian tube cancer was first described in 1886. Very few cases have been reported in literature. Among all gynaecological malignancies PFTC is least common[4]. PFTC accounts for approximately 0.14 - 1.8% of all female genital malignancies. The peak incidence is between the ages of 60 years and 64 years. Because of its rarity, the correct preoperative diagnosis is rarely made and it is usually an incidental diagnosis in patient undergoing an exploratory laparotomy. Alvarado-Cabrero et al made correct preoperative diagnosis PFTC in only 4.6% of cases[8]. If patient has clinical symptoms such as vaginal discharge or abnormal genital bleeding with negative diagnostic curettage PFTC should be included in the differential diagnosis[1]. On CT scan tumours were completely solid and others were predominantly cystic with papillary projections or solid regions. Although rare, PFTC must be considered in the differential diagnosis of adnexal masses, and particularly in the presence of incomplete septations and a highly vascular, solid component[5]. In our case, on CT, tumour appeared as a tubo-ovarian mass. Since patient had history of tuberculosis 8 years back and now she presented with ascites, clinical diagnosis of abdominal Koch was considered but FNA from tubo-ovarian mass revealed malignant surface

epithelial tumour. Thus ovarian malignancy was suspected. Left fallopian tube microscopy revealed papillary adenocarcinoma arising from mucosa of tube. Secondaries are more common in fallopian tube from ovary and endometrium. Due to absence tumour cells in endometrium and ovary, and as the tumour was arising from mucosa of left fallopian tube the diagnosis of primary papillary adenocarcinoma of fallopian tube carcinoma was confirmed. PFTC spreads by local invasion, transluminal migration and via the lymphatics and the bloodstream. Patients with PFTC have a higher rate of retroperitoneal and distant metastases than those patients with epithelial ovarian cancer. Metastases to the para-aortic lymph nodes have been documented in 33% of the patients with all stages of disease. The stage of disease at the time of diagnosis is the most important factor affecting the prognosis, PFTC carries five-year survival rates of about 68 -76% for Stage I disease, 27 - 42% for Stage II disease and 0 -6% for Stage III and IV disease so it is very important to diagnose these neoplasms in the early stages. Surgery is the treatment of choice for PFTC, and the surgical principles are the same as those used for ovarian cancer. The procedure of choice is abdominal total hysterectomy, bilateral salpingo-oophorectomy, omentectomy, selective pelvic and para-aortic lymphadenectomy for any stage for fallopian tube carcinoma. Since fallopian tube carcinomas resemble ovarian carcinoma, they have been treated in a similar fashion[8-10].

Diagnosis of PFTC is rarely considered preoperatively and it is usually first appreciated at the time of operation or after operation by the pathologist.

## Conclusion

PFTC is very rare. Secondaries are more common in fallopian tubes. Management of PFTC is same as ovarian cancer but has worse prognosis. Thus, it is important to distinguish PFTC from secondaries in fallopian tube.

**Conflict of Interest: None**
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