Case Report

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A Case Report on Primary Fallopian Tube Carcinoma: An Incidental Diagnosis in a Case Operated for Leiomyoma

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Abstract

Primary Fallopian tube carcinomas are very rare in incidence. They occur in a wide range of age group ranging from 17 to 88 years. The etiology of these tumours is unknown. Sometimes the tumour presents clinically like an ovarian malignancy and that only rarely the diagnosis of tubal malignancy is made preoperatively. Both the ovarian and Fallopian tube malignancy have similar age of occurrence being more common in nulliparous women and are of serous papillary morphology. Tumours of uncertain origin arising from ovary and tubes have generally been put under ovarian origin since ovarian tumours occurs at a greater frequency than that of the tubes. Here with presenting a case of Primary Fallopian tube carcinoma which was incidentally diagnosed in a case with a preoperative diagnosis of leiomyoma.

Keywords: Primary Fallopian Tube Carcinoma; Papillary Serous Carcinoma.

Introduction

Primary malignancy of fallopian tube is very rare in incidence accounting for about 0.14 to 1.8% of all gynaecological tumours [1]. It occurs predominantly in postmenopausal women. The clinical presentation of these tumours is variable. Sometimes the tumour presents clinically like an ovarian malignancy and that only rarely the diagnosis of tubal malignancy is made preoperatively [1]. Therefore presenting a case of Primary Fallopian tube carcinoma which was incidentally diagnosed in a 49 year old female patient.

Case History

A 49 year old female came to the outpatient department with history of recent onset menorrhagia for past 3 months. She was married since 20 years and had regular cycles till then. She had 2 full term and uneventful normal vaginal deliveries. Pervaginal examination showed cervical erosion. Conventional PAP Smear done showed inflammatory changes and negative for any intraepithelial lesions. Ultrasound abdomen done showed bulky uterus with a heterogeneous mass in myometrium (fibroid). Endometrial thickness and bilateral ovaries with tubes could not be visualised. Endometrial Curretage had done showed endometrium in proliferative phase. With this a preoperative diagnosis of fibroid uterus was arrived at. Under spinal anaesthesia, total abdominal hysterectomy with salphingo-oophorectomy was done.

Peroperative Findings

Uterus showed mild asymmetrical enlargement. Fallopian tubes and ovaries were unremarkable except for distension of Fallopian tube on one side. Gross findings of the specimen are described in Fig.1. Microscopic findings of the specimen have been described in figure 2 & 3.

Hence a diagnosis primary high grade papillary serous carcinoma of fallopian tube was made incidentally in a patient who has been operated for leiomyoma uterus. Following the diagnosis of papillary serous tubal carcinoma exploratory laparotomy was done for the patient for staging of the tumour. There was no fluid collection in the

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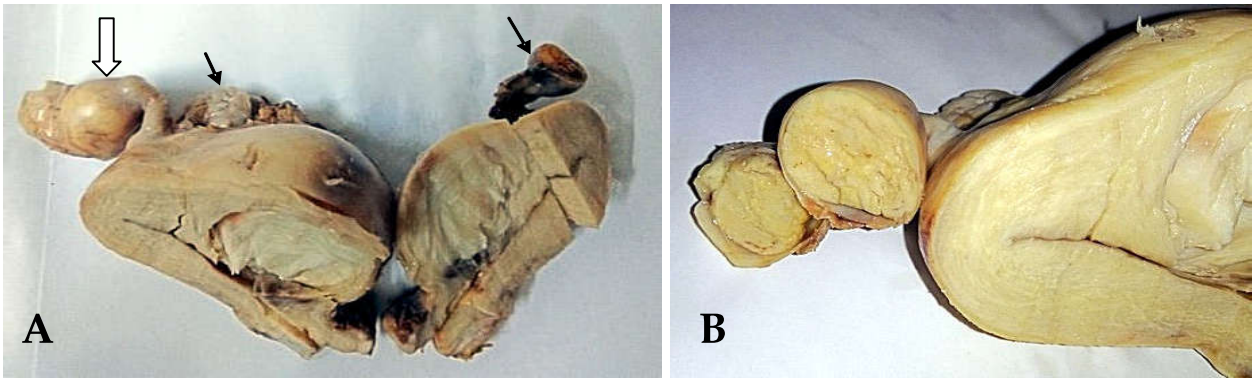

Fig. 1: A. Shows uterus with cervix measuring 14 x 10 x 7 cm. Cut surface of uterus showed an intramural fibroid measuring 5cm in diameter. One and the other ovary measures about 3 x 2 x 1 cm and 2x1x1cm (black arrow) and had normal cut surface. Fallopian tube on one side appears dilated (4x3x2 cm) in the fimbrialend (white bold arrow) and the other tube was normal (3 cm in length). **B.** Showsthe bisected cut surface of the tube showing grey white solid mass.Grossly no extension of the tumour seen on the serosal aspect of the tube

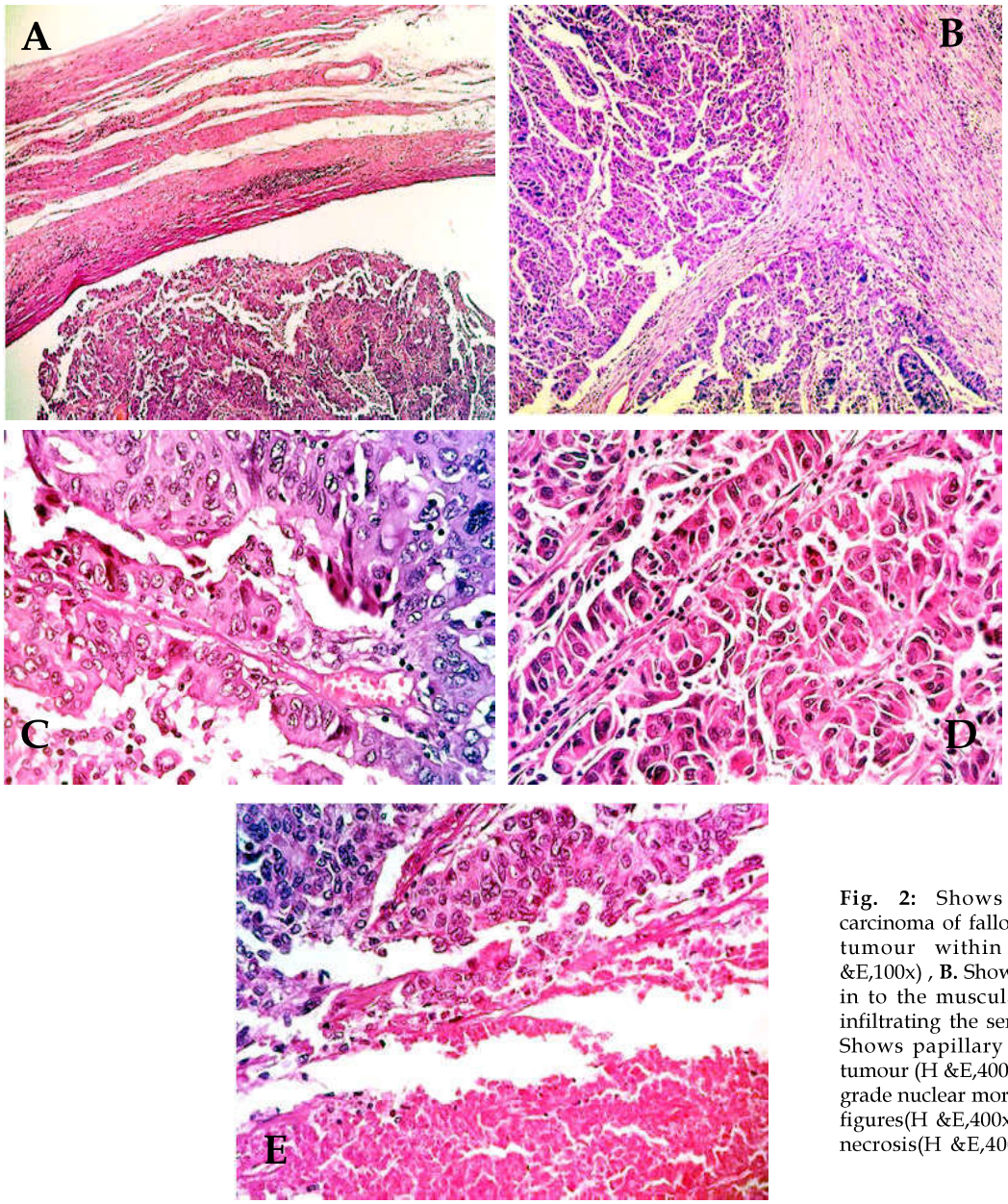

Fig. 2: Shows papillary serous carcinoma of fallopian tube- **A.** Shows tumour within fallopian tube(H &E,100x) , **B.** Shows tumour infiltration in to the muscularispropria without infiltrating the serosa (H &E,100x), **C.** Shows papillary morphology of the tumour (H &E,400x), **D.** shows the high grade nuclear morphology with mitotic figures(H &E,400x), **E.** shows tumour necrosis(H &E,400x)

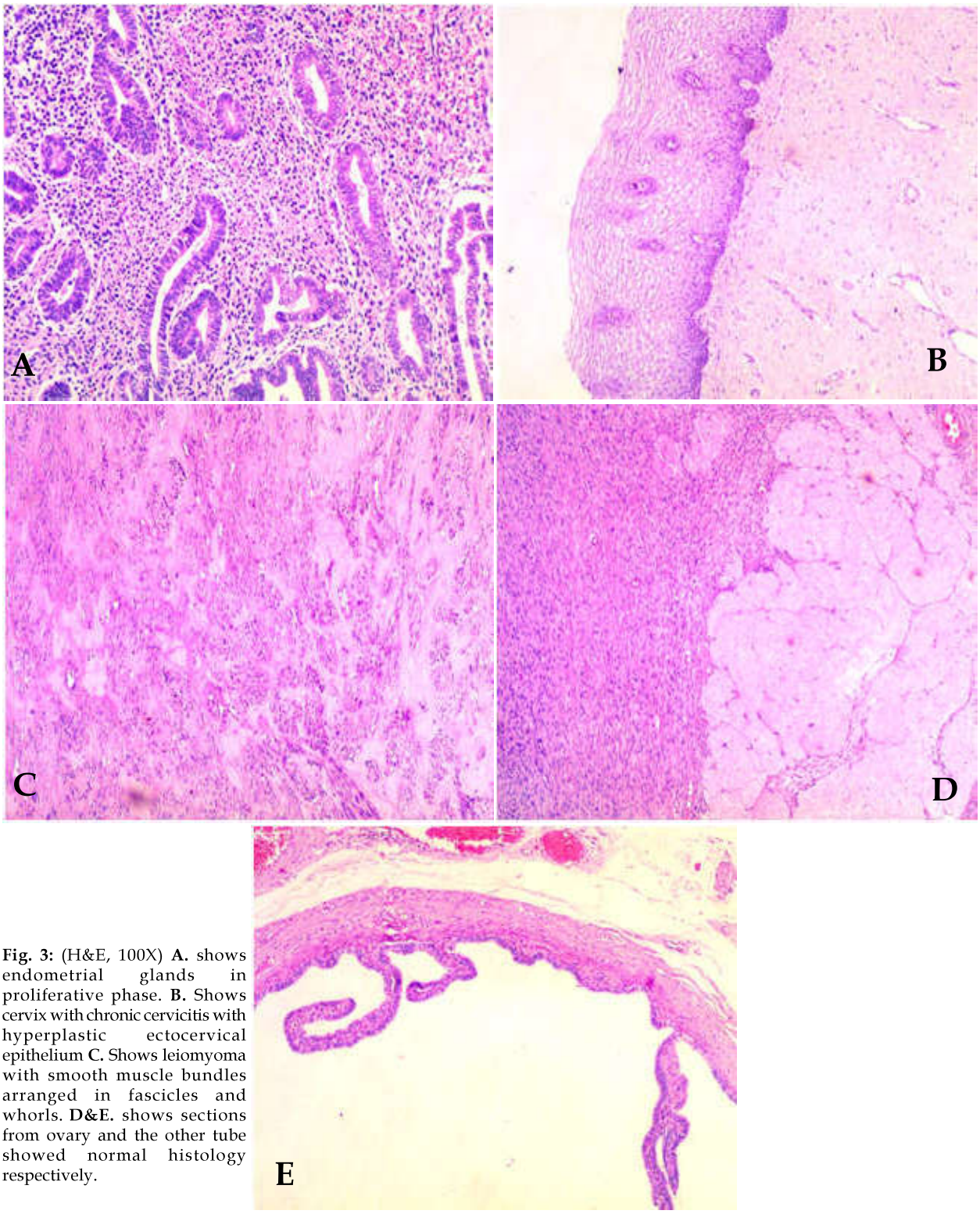

Fig. 3: (H&E, 100X) **A.** shows endometrial glands in proliferative phase. **B.** Shows cervix with chronic cervicitis with hyperplastic ectocervical epithelium **C.** Shows leiomyoma with smooth muscle bundles arranged in fascicles and whorls. **D&E.** shows sections from ovary and the other tube showed normal histology respectively.

peritoneum. The omentum along with lymph nodes submitted for histopathological examination was free from tumour and hence a pathological stage of pT1a was given. Chemotherapy was not given and patient was put to follow up at 6 monthly intervals with ultrasound and CA-125 levels.

Discussion

Primary malignancy of Fallopian tube is very rare occurring in the age group of fourth and the fifth decades of life [2]. Their incidence was found to be 4.1

per million women year in a study conducted in 2007 covering 3051 cases from USA Cancer registry reported during the period from 1998 to 2003 [3]. Though the etiology is unknown, it is said that the fallopian tube carcinomas may be associated with tubal endometritis, chronic tubal inflammation, infertility and tuberculous salphingitis [3].

The clinical symptoms of Fallopian tube tumours are usually non specificand mostly are clinically silent. Serosanguinous vaginal discharge, pelvic mass and abdominal pain which forms the classical Latzko's triad of symptoms of fallopian tube malignancies is seen only in 15% of the cases [4].

The most common clinical symptom is postmenopausal bleeding. The most characteristic presentation is colicky abdominal pain accompanied by profuse intermittent clear to yellow cholesterol rich watery vaginal discharge followed by a decrease in size of the abdominal distension (hydrops tubaeprofluens) [1].

Preoperative diagnosis of Fallopian tube carcinoma is rarely made with the help Transvaginal ultrasound, CT or MRI scan which aids in the better identification of findings such as vascular enhancement, pseudoseptae, papillary protrusions and tubal wall abnormalities [3].

CA 125 is a very useful tumour marker in the diagnosis of fallopian tube malignancy which together with ultrasonography helps in the diagnosis of 65% of cases [5].

Tubal malignancy have fusiform enlargement of the tubes that may mimic a hematosalphinx or a hydrosalphinx. In some rare instances the tube may not show considerable enlargement or the tumour is only microscopic without any gross evidence of tumour.The most common part of the tube involved by the tumour is the ampulla and the fimbriae[1]. It presents as soft grey brown solid papillary, villous or polypoidal mass. Tumour spreads to the peritoneum, adjacent pelvic organs and the lymph nodesin way similar to that of ovarian carcinomas. When the tumour spreads to involve the adjacent ovary it is very difficult to predict the origin of the tumour. In such instances they will be classified as the tubo-ovarian carcinoma [3].

Microscopically the most common type of epithelial malignancy occurring in the Fallopian tube is the serous type. According to Tahiri Elousrouti L et. al., the percentage of incidence of various subtypes of fallopian tube carcinomas includes Serous(45-90), Endometrioid (8-50), Transitional (12), Mixed (4-20), Mucinous (3-8), Clear cell (1.9) and Undifferentiated (7-12) type [3]. High grade serous carcinoma have increased mitotic index of about 12 per 10 high power field and atypical nuclei sometimes with a multinucleated appearance [3].

STIC (Serous Tubal intraepithelial carcinoma) forms a precursor for the development of fallopian tube carcinoma and are most frequently located in the fimbrial end of the tube. STIC refers to the presence of dysplastic cells confined to the epithelium without invasion of the underlying stroma. In its presence a careful search for the presence of invasive focus must be made [3].

STIC have characteristic over expression of ki67 and TP53. They have a ki67 or mitotic index of 0-30% [3]. Strong expression of TP53 in more than 12 consecutive normal secretory epithelial tubal cells in the fallopian tube is considered as a criterion for its immunohistochemical over expression. Hence extensive search for intraepithelial lesion and TP53 signature aids in the diagnosis and prognosis of early tubal carcinomas [2].

The immunophenotyping of the primary fallopian tube carcinoma is same as that of the similar counterpart in ovarian carcinomas. They are cytokeratin 7 positive, 20 negative and PAX-8 positive. The serous variant of fallopian tube carcinomas also shows characteristic diffuse strong positivity for WT-1 [6].

The diagnostic criteria that helps in the differentiation of primary tubal from primary ovarian or endometrial malignancy was put forth by Hu et al., which was on a later date modified by Sidles.The malignancy should resemble tubal epithelium with a transition from benign to malignant epithelium. The bulk of the tumour should be present in the tube and grossly endometrium and ovary should be free from tumour or may have lesser bulk of the tumour [7]. Though treatment modalities are not much different across these entities, the 5 year survival rate for primary ovarian tumours (77%) are much better as compared to Fallopian tube tumours (50%) [8].

Surgery forms the mode of treatment for primary Fallopian tube carcinomas. Procedure is same as that for ovarian tumours. Since primary fallopian tube carcinomas are quite rare, there is no strict consensus for its treatment.

For those tumours with advanced spread debulking can be done by cytoreductive surgery followed by chemoradiotherapy [3]. Prognosis of these patients are worse and many may present with metastatic disease at the time of diagnosis. The two most important factors in detecting the prognosis include staging and the presence or absence of the residual tumour [1].

Conclusion

Papillary serous fallopian tube adenocarcinomas are a very rare entity that a preoperative diagnosis is made occasionally. It is very important to rule out secondary spread from primary tumours of uterus or ovary. Radiology and immunohistochemistry do not play much role in diagnosis. Thorough gross examination and histopathological confirmation is required for establishing the diagnosis of primary tubal malignancies. Proper dissection and submitting adequate sections from the fallopian tube especially from its fimbrial end forms a very important step towards making a correct diagnosis of primary fallopian tube carcinoma.

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