

# Pseudocarcinomatous Hyperplasia of the Fallopian Tubes which was Associated with Female Genital Tract Tuberculosis, Histologically Mimicking Tubal Adenocarcinoma: A Diagnostic Challenge

SONAM GUPTA, PREM SINGH, JYOTI BALA, DEEBA MUSHTAQ, ANKITA GOYAL

## ABSTRACT

The benign proliferative and reactive processes of the fallopian tubes which are a result of female genital tract tuberculosis can mimic malignant neoplasms, both clinically and pathologically. 'Pseudocarcinomatous hyperplasia' is a term which is applied to the florid form of epithelial hyperplasia with atypical features, that mimicks tubal adenocarcinoma. It may be encountered in the tuberculous and the non tuberculous forms of chronic salpingitis. We are reporting a case of a 30 years old female who presented to our institute with complaints of vaginal

discharge and fever. She underwent panhysterectomy for uterine fibroids. Both her fallopian tubes revealed features of florid atypical epithelial hyperplasia, along with widespread caseating granulomas. Ziehl Neelsen (ZN) staining of the lesion for acid fast bacilli (AFB) was positive. A diagnosis of pseudocarcinomatous hyperplasia of the fallopian tubes which was associated with female genital tract tuberculosis, which histologically mimicked tubal adenocarcinoma was made, which posed a diagnostic dilemma.

**Key Words:** Pseudocarcinomatous hyperplasia, Tuberculosis, Adenocarcinoma, Fallopian tubes

## INTRODUCTION

Many benign hyperplastic and reactive processes may occur in the fallopian tubes, which can be mistaken for a neoplasm, both clinically and pathologically. A florid form of epithelial hyperplasia which affects the fallopian tubes, that mimicks tubal adenocarcinoma, has been termed as 'pseudocarcinomatous hyperplasia'. It may be encountered in tubercular salpingitis and non tubercular salpingitis and it is characterized by the crowding and the stratification of the epithelium and gland formation with a cribriform pattern. It may be associated with the glandular infiltration of the muscular layer with desmoplastic reactive pseudoglandular hyperplasia of the tubal serosal mesothelial cells, mimicking the transmural extension of a carcinoma. Sometimes, chronic inflammation with a granulomatous reaction may also be seen in tubal carcinoma, which may sometimes be difficult to differentiate from the reactive atypical hyperplasia which is seen in tubercular salpingitis [1].

## CASE REPORT

A 35 years old female gravida 10 and para 3 reported to this institute with a history of persistent discharge per vaginam, dysmenorrhoea and oligomenorrhoea since one year. She had been having fever for the past one month. The patient had undergone five medical termination of pregnancies along with two spontaneous abortions in the past. On physical examination, she was found to be febrile. Her systemic examination showed a normal picture and there was no evidence of tuberculosis. There was no organomegaly. Her pelvic ultrasound examination revealed two uterine fibroids and dilated fallopian tubes. Hysterosalpingography showed a diffuse dilatation of both the fallopian tubes. She underwent panhysterectomy for the fibroids as a part of the treatment.



**[Table/Fig-1]:** Panhysterectomy specimen showing grossly dilated and enlarged fallopian tubes. Inset showing mucosal tufting and focal areas of caseation.

## Gross Examination

The panhysterectomy specimen revealed two, small, intramural uterine fibroids. Both the fallopian tubes were grossly dilated and thickened [Table/Fig-1]. The cut surface of the fallopian tubes revealed a friable mucosa with papillary fronds and foci of caseous necrosis [Table/Fig-1, inset]. There was no gross evidence of any tumour.

## Microscopic Examination

Her endometrium and ovaries showed multiple granulomas. There was no evidence of endometrial hyperplasia or carcinoma. The

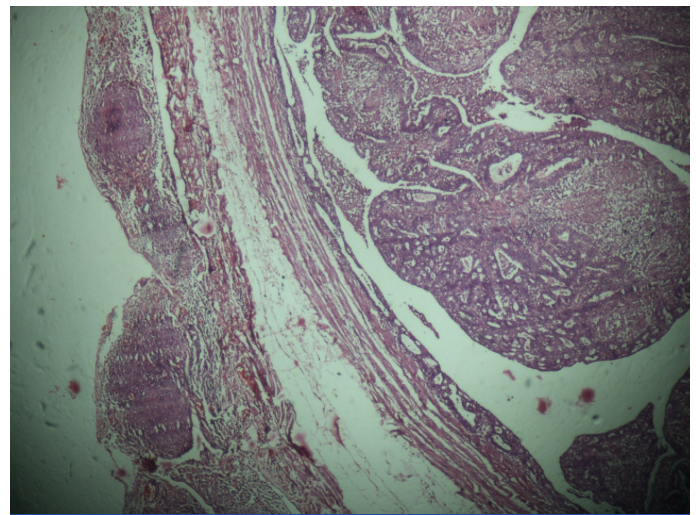
fallopian tubes revealed stratification of the epithelium, tufting with cribriforming and gland formation. Nuclear atypia with occasional mitotic figures was seen. There was a glandular infiltration of the muscularis propria [Table/Fig-2, 3]. Both the fallopian tubes showed widespread granulomas which were composed of epithelioid cells, Langhans giant cells, lymphocytes and plasma cells with areas of caseous necrosis [Table/Fig-4]. The presence of granulomas was also seen on the surface of the fallopian tubes and in the wall [Table/Fig-2]. ZN staining for AFB was positive. A final diagnosis of pseudocarcinomatous hyperplasia of the fallopian tubes which was associated with female genital tract tuberculosis was made.

## DISCUSSION

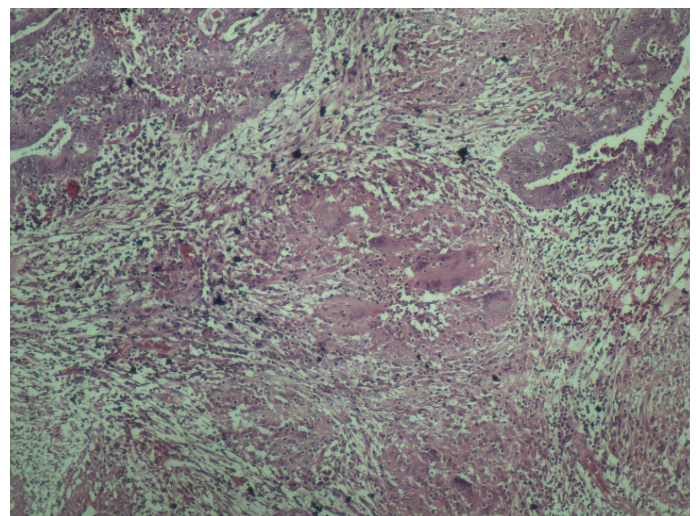
The florid form of epithelial hyperplasia which accompanies a recurrent, non tuberculous inflammation of the fallopian tubes was first described by Dougherty and Cotten in 1964 [2]. Subsequently, Cheung and colleagues emphasized the association of various forms of chronic salpingitis, which included tubercular salpingitis, with hyperplastic tubal mucosal lesions which are occasionally difficult to differentiate histologically from adenocarcinoma [3]. Moore and Enterline noted the presence of epithelial hyperplasia in 18.5% cases of surgically resected fallopian tubes which showed associated salpingitis in 50% of the cases [4]. The prevalence and the clinical significance of hyperplastic mucosal epithelial proliferations are controversial, with differing opinions about their significance [5]. Some believed it to be a frequent incidental finding with no clinical significance [4]. Some authors claim the finding to be an uncommon lesion which is associated with malignant lesions of the female genital tract [6]. Pseudocarcinomatous hyperplasia is histologically characterized by small papillary tufts, stratification of the epithelial lining with nuclear overcrowding which is associated with loss of polarity and occasional mitotic figures. The nuclear atypia comprises of elongated and enlarged nuclei with an increased nucleocytoplasmic ratio in the hyperplastic cells. The nuclear chromatin of the hyperplastic cells is finely granular and 1-2 prominent nucleoli are commonly observed [7]. These findings were consistent in our case also and they need to be differentiated from adenocarcinoma of the fallopian tubes. The patients of tubal adenocarcinoma are mostly postmenopausal with a mean age of 62 years, whereas those with hyperplasia are younger, as has been reported in this case. Additionally, a majority of the carcinomas are grossly evident, but the pseudocarcinomatous lesions are discovered usually incidentally. A solid proliferation of the epithelial cells was not observed, although the complex pseudoglandular pattern was seen in our case. Moreover, the reactive changes which involve the fallopian tubes have been referred to as 'hyperplasias', which have been encountered in association with a variety of conditions, including chronic inflammation and hyperoestrogenic states [8]. There was no evidence of the involvement of the ovary by any tumour which caused a hyperoestrogenic state in our case. The other features which differentiated pseudocarcinomatous hyperplasia from adenocarcinoma were bilateral diffuse involvement of the tubes and the pseudoglandular architecture of the hyperplastic lesion which was seen microscopically with the cribriform pattern. The nuclear atypia was mild, with occasional mitotic figures.

## CONCLUSION

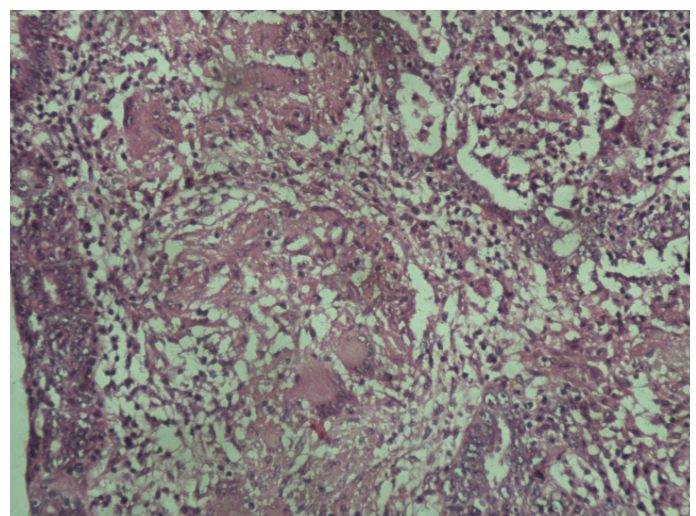
We have reported a case of pseudocarcinomatous epithelial hyperplasia of the fallopian tubes, which histologically mimicked adenocarcinoma in a patient with female genital tract tuberculosis.



**[Table/Fig-2]:** Pseudocarcinomatous hyperplasia of the fallopian tube. Marked mucosal proliferation with cribriform pattern. The serosa shows presence of granulomas. Invasion of the muscular wall with glandular epithelium is seen. (H&E, x 40)



**[Table/Fig-3]:** Marked mucosal proliferation and granulomas composed of epithelioid cells and Langhans' giant cells. Focal areas of caseation are seen. (H&E, x 200).



**[Table/Fig-4]:** Crowding and stratification of epithelium with gland formation, nuclear atypia and a mitotic figure seen in the right lower part of the field. Center of the field shows granuloma with numerous giant cells. (H&E, x 200)

Such cases need to be differentiated morphologically from adenocarcinoma of the fallopian tubes. A meticulous morphological assessment is required in such cases, to avoid any overtreatment of

the benign condition and subsequently for the proper management of the case.

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