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Case Report

Ectopic Deciduosis: A Benign Mimic Causing Morphological Challenges

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Abstract

Decidua is the endometrial lining of the pregnant uterus. It plays a very crucial role for placental development. The presence of decidual cells outside uterus is known as ectopic deciduosis (ED). It is a benign entity. However, this ectopic decidualized tissue can grow during pregnancy and that is why its histopathological mimics include both benign and malignant entities comprising of peritoneal tuberculosis, mesothelioma or metastatic carcinoma. So, correctly diagnosing this benign entity is very important. Here, we present two cases of ectopic deciduosis.

Keywords: trophoblast; ectopic; deciduosis; tuberculoma; carcinoma

Introduction

Ectopic Deciduosis (ED) refers to the abnormal presence of decidual cells outside uterus. While its occurrence is mostly of unknown etiologic, it is thought to happen due to metaplasia of pluripotent mesenchymal cells due to progesterone hormone [1]. It is a completely asymptomatic benign entity which remains undetected throughout the pregnancy. However, its diagnosis is possible only on histopathology and due to this its importance lies in the fact that grossly it mimics a neoplasia [2]. We hereby report two cases of Ectopic Deciduosis with clinical suspicion of metastatic deposits on the ovary and peritoneal tuberculoma respectively.

Case Reports:

Case 1:

A 28-year-old female, primigravida, at term, underwent lower segment caesarean section for breech presentation. Intra-operatively both the ovaries showed multiple surface nodular deposits ranging 4-8 mm in size. In view of this, a biopsy was taken for histopathological examination with a clinical suspicion of Krukenberg Tumour.

Case 2:

A 30-year-old female, primigravida, having gestational diabetes, underwent lower segment caesarean section for twin pregnancy at 32 weeks of gestation. Intraoperatively, the peritoneum showed small nodular deposits, largest measuring 0.5 cm in diameter, suspected to be tuberculomas which were sent for histopathological examination.

Histopathology:

Haematoxylin-eosin-stained sections from the peritoneal deposits revealed nodules and singly lying decidualised cells embedded in a fibro collagenous stroma. The ovarian deposits showed similar cells in small clusters in a myxoid stroma, present on the surface of the ovary. (Fig 1A, B) There cells had abundant granular eosinophilic cytoplasm, nuclei with open chromatin and prominent eosinophilic nucleoli. (Fig 1C) On immunohistochemistry, these cells were immuno-positive for CK7, CK20 and vimentin (Fig 1D-E). They were immuno-negative for PAX 8, WT 1, GATA 3, CDX 2, calretinin and TTF-1. The Ki-67 proliferation index was low (<1%). The characteristic histomorphology and immunohistochemical profile in an appropriate clinical background helped making a diagnosis of ED. Both patients have remained in close follow-up and have been asymptomatic thence.

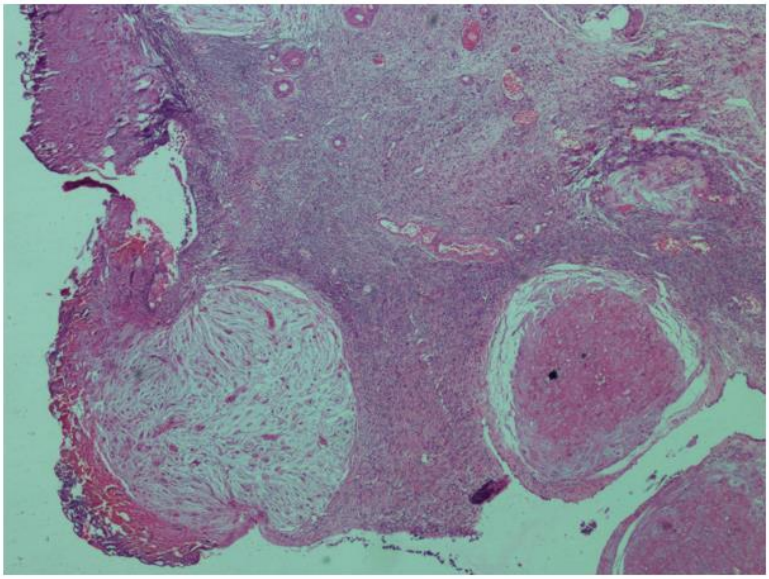
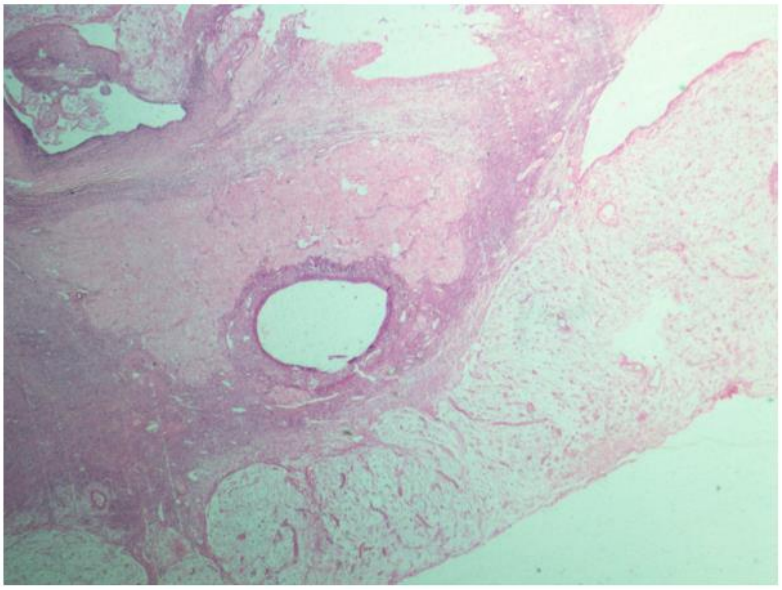


Figure: 1A



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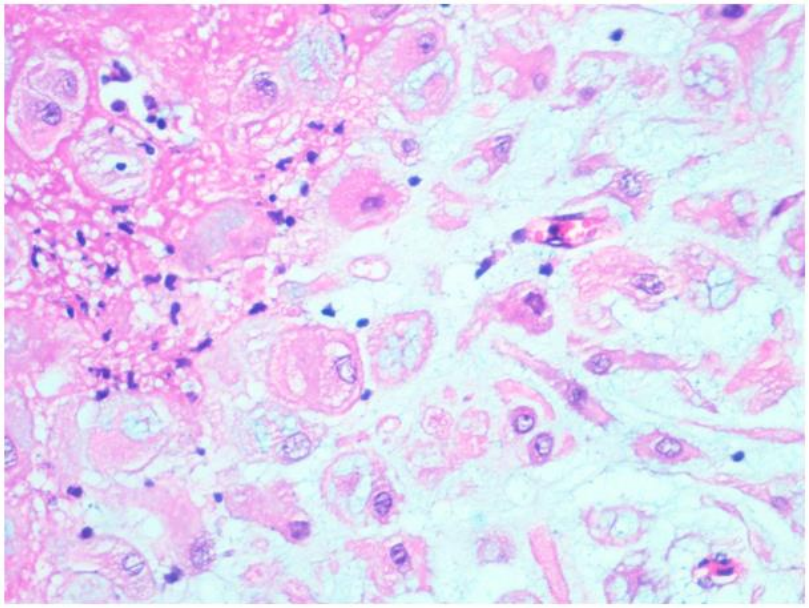

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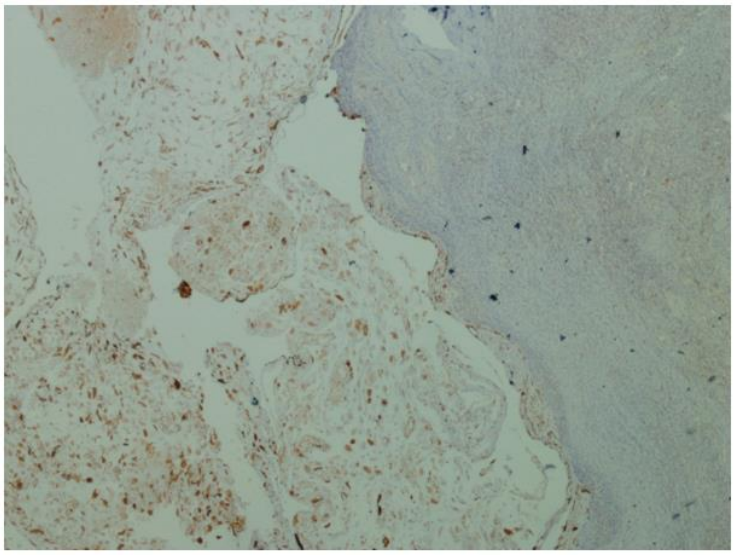

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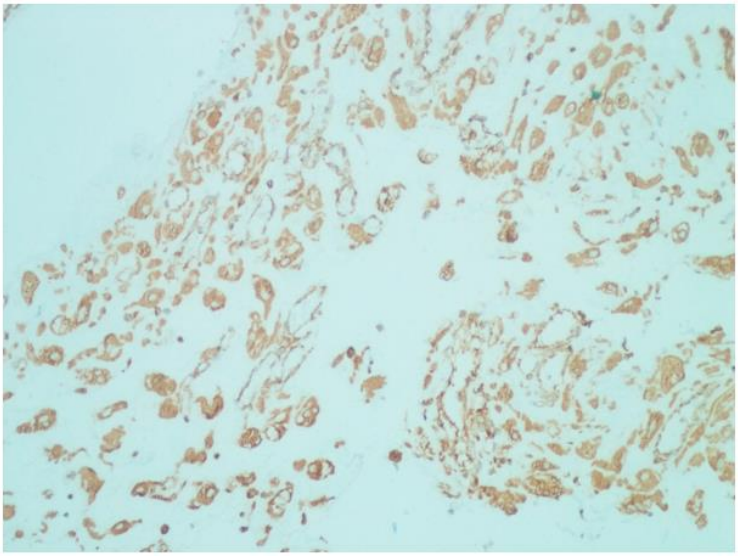

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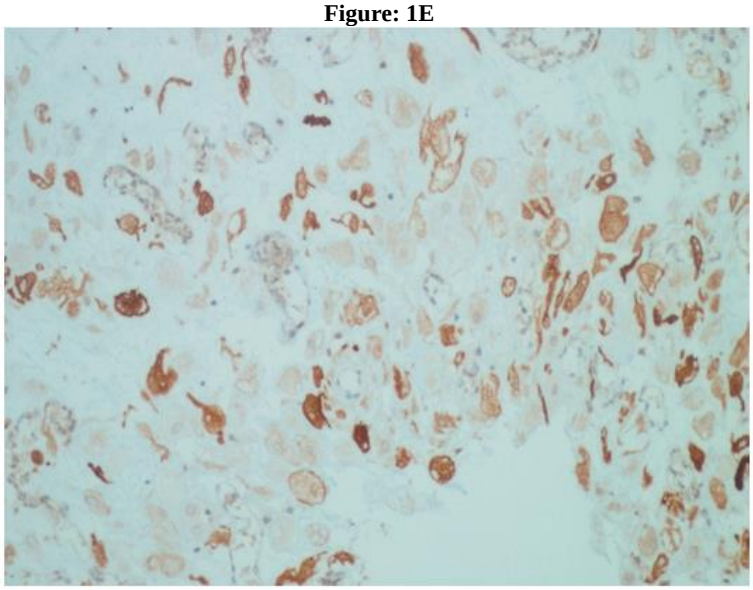

Figure: 1F

Figure 1: Histopathology of two cases of Ectopic Deciduosis. **1A & 1B**: Low power showing clusters of singly lying decidual cells in a myxoid stroma on the surface of ovarian parenchyma (H&E X 40); **1C:** Higher power showing large cells with abundant granular eosinophilic cytoplasm and moderate nuclear atypia (H&E X400). Immunohistochemistry shows positivity for **1D:** CK7 (X40), 1E: CK20 (X400) and **1F:** Vimentin (X400).

Discussion:

The process of ectopic decidualization was first described by Walker n 1887 [3,4], however, its pathogenesis is not exactly known yet [5]. It is still not understood whether it is a physiological or a pathological process. It is said to be the result of exaggerated response of the endometrium to progesterone during pregnancy.

Zaytsev and Taxy have published two possible theories [6]. The most commonly accepted theory is metaplasia of the sub-celomic pluripotent mesenchymal cells under the effect of progesterone. The fact that the lesion resolves once the hormonal stimulus ends supports this theory. Another theory is the "de novo" development of decidual cells. Endometriotic foci are also known to undergo marked stromal decidualization due to excessive progesterone during pregnancy, which resembles ED [7]. So, the cases of endometriosis need to be differentiated from the cases of ectopic deciduosis as both the entities present during pregnancy and both these entities have completely different treatments [5]. The cases of endometriosis are given hormonal therapy [8] whereas the cases of ectopic deciduosis are just kept on follow up as the lesions regress eventually. The presence of clinical symptoms at the beginning of the menstrual period and the presence of endometriotic foci in other areas are the two important clues for endometriosis. Our cases, however, did not show any clinical features or a positive history of endometriosis.

The age range of patients with ED is between 13 years - 43 years, majority of them being Caucasians (2). It is commonly seen in pregnancy, as was also seen in our cases. ED seems to locate preferentially on tissues derived from the coelomic epithelium. The patients can present with vaginal bleeding, abdominal pain mimicking appendicitis, massive and occasional fatal hemoperitoneum in the last trimester, labour or postpartum hydronephrosis and haematuria due to renal pelvis involvement and also pneumothorax [9] Both of our cases had no such clinical signs or symptoms. ED is often incidentally detected during caesarean deliveries, elective tubal ligations, appendicectomy and during surgeries for tubal pregnancies [10]. When located on the cervix, it is called as cervical deciduosis and presents as cervical polyp causing antepartum hemorrhage [1]. Gross deciduosis peritonei is a rare lesion. Macroscopically, the size of these lesions is around 0.2 to 2 cm, both our cases had sizes in this range. In a study of 307 consecutives caesarean sections, macroscopic deciduosis was found in 31 (10.1%) cases [2]. These lesions appear most often in the form of small white nodules whose localizations during pregnancy are most frequently the ovaries, cul-de-sac, pelvic wall, the anterior and posterior surfaces of the uterus, the momentum, the cervical stroma, the cervical mucosa, small bowel, large bowel and also the pelvic and lumbar ganglia and sometimes the appendix [11]. Masses of up to 60 mm in size have been described [9].

Histopathology shows large polygonal trophoblastic cells with abundant eosinophilic cytoplasm, vesicular nuclei and prominent nucleoli. It does not show increased mitotic activity, nuclear pleomorphism, areas of necrosis, or lymph vascular invasion. In some cases, stroma may also show myxoid change due to vacuole rupture if the decidual cell cytoplasmic vascular degeneration is over 50% [5]. Focal myxoid change was also seen in our cases.

The ectopic development of this phenomenon of decidualization, especially in a giant form poses the problem of differential diagnosis with carcinomatous lesions or tuberculomas.

The immuno-positivity of the trophoblasts for cytokeratin (CK7 & CK20) and vimentin, can lead to diagnostic challenge. Our cases with ovarian surface and peritoneal deposits of CK7, CK20 and vimentin positive cells, needed exclusion of the commonest differential diagnosis of metastatic carcinoma. However, clinical awareness along with recognition of the characteristic trophoblasts prevented false alarm.

ED usually has a favourable clinical outcome and is known to regress 4-6 weeks postpartum.

Nevertheless, in some cases, it can cause complications like bleeding, adhesions, mechanical ileus, or acute prerenal failure due to decidual transformation of peritoneum. No specific treatment has been advised for this entity [6].

Conclusion:

These two cases of ED highlight the importance of morphology in histopathology wherein immunohistochemical markers may at times mislead. This obstetric condition should always be kept as a differential diagnosis when the peritoneal spread of tumour like lesions is found especially during pregnancy.

Abbreviations: ED- Ectopic Deciduosis

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