Diffuse peritoneal deciduosis in pregnancy: A case report

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Introduction
Deciduosis or ectopic decidua is the presence of a group of decidual cells outside the endometrium. Walker was the first to define the condition in 1887(1). In pregnancy, the occurrence of ectopic deciduas was observed in ovaries, uterus and tubes, while localization in peritoneum was rare(2-6). It is important to differentiate between this benign phenomena and Mesothelioma, malignant carcinoma and metastatic malignant Melanoma(7,8). We are reporting a case of ectopic deciduas in a 27-year-old lady who was asymptomatic during the course of her pregnancy, presented with preterm labour pain, and underwent cesarean section due to Triplet pregnancy. The lesions were discovered accidentally; they were nodular covering most of the peritoneum and there was omental cake. Biopsies were taken to differentiate it from malignant conditions. Histopathological diagnosis confirmed deciduosis.

Case Presentation
A 30-year-old lady, P0+1, 28 weeks pregnant with triplets, her pregnancy is a product of intrauterine insemination after a few years of secondary infertility. Her pregnancy was smooth till a few hours prior to presentation when she started to complain of labor like abdominal pain; on examination she was found to have 4 cm dilated cervix shortening in its length. She underwent emergency caesarean section, and after closure of the uterus, inspection of abdominal cavity revealed presence of whitish nodules on the tubes, ovaries, meso-colon (picture 1) and extensive nodularity of the omentum forming omental cake. Biopsies were taken from the nodules, and the omentum; they were sent for histopathology. Peritoneal wash was sent for cytology. The immunohistopathology confirmed the diagnosis of ectopic decidua. Eight weeks later the patient underwent diagnostic laparoscopy as follow up; the lesions were resolved completely (pictures 2,3,4).

Discussion
Extensive peritoneal deciduosis is a rare condition(2-6,9). It is seen in ovaries, uterine serosa, pelvic side wall, bowel and omentum. The macroscopic intraoperative appearance suggests peritoneal carcinomatosis, as we have in our case.(10)

Ectopic deciduas could be seen in the appendix, diaphragm, spleen, liver renal pelvis and paraaortic-pelvic lymph nodes(9,11-14). It has been documented to occur mostly in other sites of Mullerian origin(15-17).

The majority of ectopic deciduas cases has been associated with progesterone secreting corpus luteum in pregnancy(6-8). A diffuse form is uncommon and occurs in the conditions of high levels of progesterone, most commonly seen in pregnant women with multigestation(15-17) as we have in our case. In the absence of pregnancy, the stimulation of ectopic decidual cells attributed to progesterone secreted from adrenal cortex.(7) Deciduosis is usually asymptomatic during pregnancy, and discovered accidentally during cesarean section(18). Cases of pseudo-acute appendicitis, haemoperitoneum, cutaneous swellings and abnormal appearance of cervix have been reported in pregnancy(19,20).

Malpica et al, reported a case of obstructed labour due to gross peritoneal deciduosis in 2002.(21)

The appearance of peritoneal deciduosis ranges from geographic pattern, nodular distribution to polypoid appearance (7-9,16). In our case they were in the form of multiple small nodules.

Diffuse lesions on the omentum are seen on the peritoneal surface as grey-white multiple and presence of focal haemorrhagic nodules or plaques, detected intraoperatively, as we saw in our case. They should be differentiated from peritoneal tuberculosis or metastatic lesions and can be confused in frozen section(6-9,13).
Figure 1: Diffuse nodularity of meso-colon

Figure 2: Pelvic side wall 8 weeks post cesarean section
On histopathological examination, it is important to differentiate ectopic deciduas from deciduoid malignant mesothelioma, metastatic malignant melanoma and vacuolated decidual cells from metastatic signet ring cell carcinoma. Deciduoid Mesothelioma is a variant of Mesothelioma that can be seen in a wide range of ages, with similar outcome as epithelioid mesothelioma(23,24); the cells are large, with well defined borders, abundant eosinophilic cytoplasm, little pleomorphism, low mitotic activity and cohesive.(23)

Signet ring cell carcinomatosis have cells with eccentric nuclei, mucin filled cytoplasm and diffuse infiltrating cells that can be found in the form of single cells, cords and nests.(25)

The diagnosis of deciduoid mesothelioma will be supported by positivity of cytokeratin 5/6 and calretinin on immunohistochemical analysis, while the HMB-45 S-100 protein and keratin positivity metastatic carcinoma support malignant melanoma.(26,27) The clinical history, the lack of mitosis in decidual cells, negativity of calretinin, keratin, HMBE-1 and vimentin and PR positivity on immunohistochemical analysis support deciduosis.(8,26,27)
Conclusion
Deciduosis or ectopic decidua represents a physiological reaction of pleuripotent stromal cells to stimulation of progesterone. It is a benign lesion, and resolves spontaneously in the postpartum period. Nodules should be biopsied during surgery to be differentiated from malignancy.

References
17. Ellis CL et al. Ectopic decidua in abdominal washings found intraoperatively at cesarean section. Diagnostic Cytopathology 2010; 38: 740-741