

# Quiz

## CORRECT ANSWER TO THE QUIZ. CHECK YOUR DIAGNOSIS

### CASE REPORT

## EXTRAUTERINE DECIDUAL REACTION ASSOCIATED WITH PREGNANCY

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A case of pregnancy associated extrauterine decidual reaction of great omentum in a 25 year old woman, incidentally discovered during microscopic examination is described with a short review of literature.

**Key words:** extrauterine decidual reaction, pregnancy, omentum.

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### Introduction

Extrauterine decidual reaction associated with pregnancy is quite common finding. The most frequent sites include fallopian tubes and ovaries. Much less commonly peritoneal (e.g. omentum or appendix) and even retroperitoneal locations (e.g. lymph nodes or kidney) are involved [1, 2].

Below is described a case of extrauterine decidual reaction of great omentum in a 25 year old woman, discovered during caesarean section and clinically suspected for neoplastic process.

### Case report

A 25-year-old woman was admitted to the Department of Gynecology and Obstetrics with Gynecologic Oncology at Rydygier Hospital in Cracow in 39 week of pregnancy and gave birth to a healthy boy by cesarean section in September 2014. The operation was chosen after an obstretician consultation because of possibility of the hypoxia of the baby.

The patient at the admission had no complaints, but in November 2013 she was hospitalized and her right ovary was surgically removed because of the

granulosa cell tumour (2.5 cm of diameter) detected during abdominal and pelvic ultrasonography.

During the cesarean section, after the closure of uterine incision, other intraabdominal organs were closely inspected for any abnormality, partly because of the cancerophobia of the patient. Surgical biopsy of normal left ovary was performed and a slightly enlarged, clinically swollen fragment of the greater omentum (about  $6.5 \times 4 \times 4$  cm) was removed. The patient's postoperative period was uneventful.

The tissues were sent for histopathological examination to the Department of Pathology, Jagiellonian University Medical College, Krakow.

### Pathological findings

Yellow and soft, slightly lobular piece of omental fat tissue was received, without palpable tumour. Representative sections were obtained from formalin-fixed paraffin-embedded tissue and stained routinely with haematoxylin and eosin.

On microscopic examination, the sections showed adipose tissue composed of mature adipocytes. Between them and submesothelially there were large polymorphic cells dispersed individually as well as

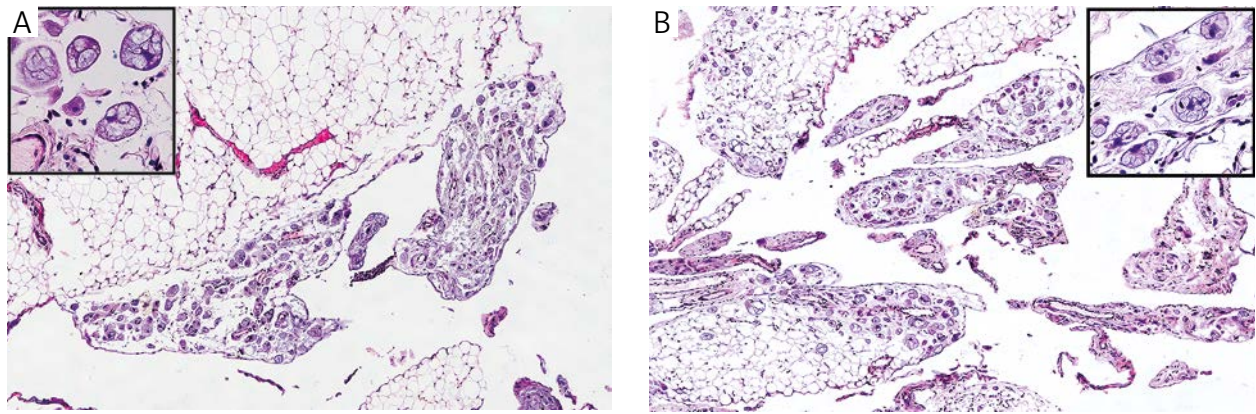


Fig. 1. A, B) Submesothelial islands and groups of large decidual cells. HE, objective magnification 10 $\times$ . Insets: details of the decidual cells with clearly visible nuclear polymorphism. HE, objective magnification 60 $\times$

in small nodules and plaques. These cells had abundant, pink, slightly granular cytoplasm, enlarged but bland nuclei with open chromatin and in some cases with locally visible but small nucleoli. There was no visible mitotic activity and no evidence of inflammation was seen (Fig. 1A, B).

To confirm the initial diagnosis of the decidual reaction, immunohistochemistry was performed according to manufacturers procedures, with the following antibodies: CK (AE1/AE3, Novocastra, dilution 1 : 50), S100 (policlonal, DAKO, dilution 1 : 400), calretinin (clone 5A5, Novocastra, dilution 1 : 100), progesterone receptor (clone 16+SAN27, Novocas-

tra, dilution 1 : 50). The results of immunohistochemical reactions are shown on Fig. 2.

The tissue sample from left ovary was described as without any microscopical pathologic changes.

## Discussion

An ectopic decidual reaction is an exaggerated response to progesterone stimulation of the ectopic cells, which are morphologically and immunohistochemically indistinguishable from decidual cells [3]. Such reaction has been described more commonly in the uterus, cervix, lamina propria of the fallopian tube

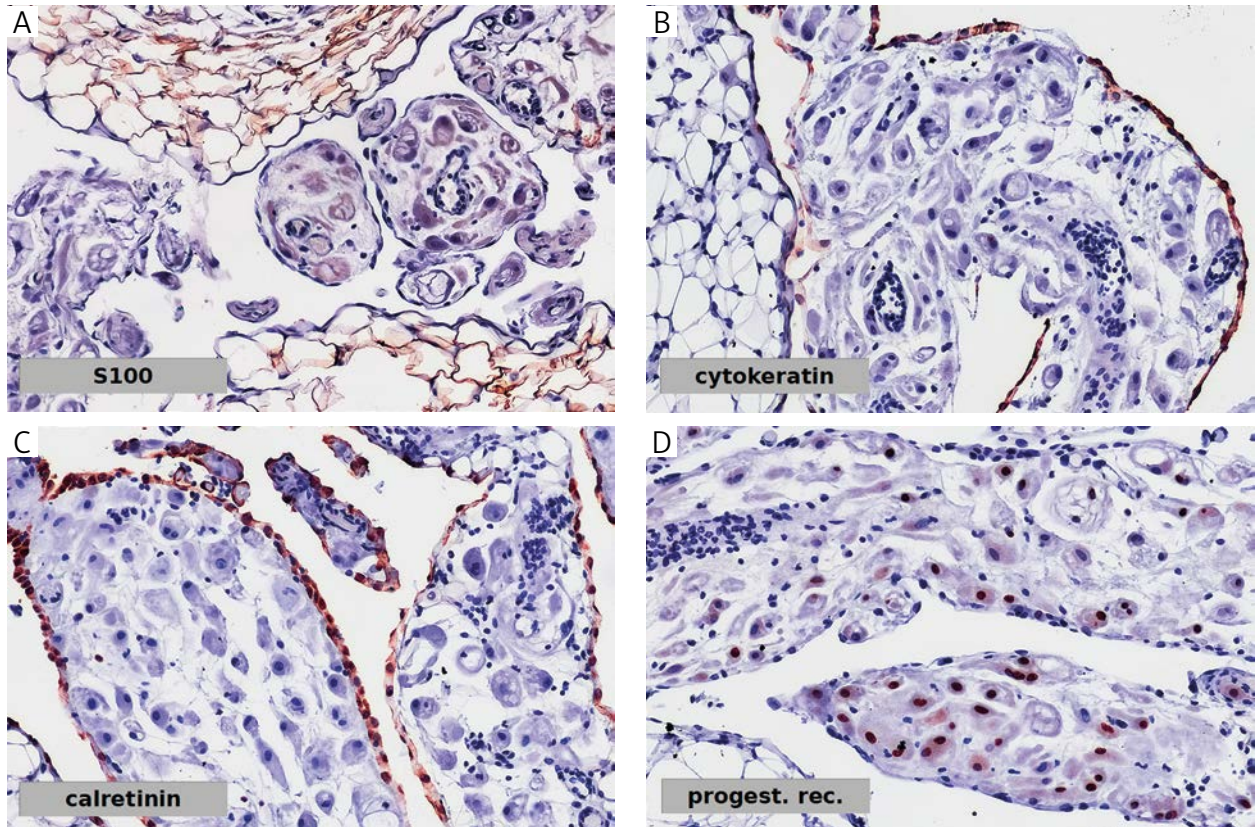


Fig. 2. Immunohistochemical reactions with antibodies against: A) S100, B) cytokeratin (CK), C) calretinin and D) progesterone receptor. Objective magnification 20 $\times$

and in ovaries, but peritoneal and retroperitoneal locations (e.g. the appendix, omentum, diaphragm, liver, spleen, lymph nodes and renal pelvis) are rare. Ectopic decidua is usually an incidental microscopic finding, detected in biopsies taken during caesarian sections, postpartum tubal ligations, appendectomies, or in-tubal pregnancies [1, 2].

There are two theories to explain this condition. According to widely accepted explanation the sub-coelomic mesenchymal cells undergo a progesterone-induced metaplasia, which is probably reversible once the hormonal influence vanishes. The second theory states that the decidual cells are already distributed in the peritoneum (e.g. from preexisting endometriosis) and can react to the progesterone in similar way the decidua does. In rare cases of deciduosis in non pregnant women, the source of progesterone is either exogenous or endogenous (secreted by corpus luteum or adrenal cortex). Deciduosis is considered a clinicopathologic process distinct from, but sometimes co-existing with endometriosis [4].

Clinically, decidual reactions are usually asymptomatic, only very rare life-threatening events (e.g. hemoperitoneum, pseudo-acute appendicitis, pulmonary involvement, and obstruction in labor due to gross peritoneal deciduosis) have been reported [5-7].

Ectopic decidual reactions of the omentum has been classified into focal deciduosis (97%) and diffuse deciduosis (3%). According to literature, florid lesions may be visible during surgery as multiple, grey white, focally hemorrhagic nodules or plaques studding the peritoneal surfaces and clinically imitating the dissemination of a malignant tumor or tuberculosis [5, 8-10].

Microscopically, possibility of focal hemorrhagic necrosis and varying degrees of nuclear pleomorphism of the decidual cells may initially suggest a malignant tumour of mesothelial origin (malignant mesothelioma) but the bland appearance of nuclei and lack of mitotic activity provide against such a diagnosis. However, the malignant mesothelioma, and especially its morphologic variant – epithelioid malignant mesothelioma with decidualoid features – has to be carefully excluded because it may be misdiagnosed as peritoneal deciduosis or florid mesothelial hyperplasia [11-13].

Other differential diagnoses include metastatic signet ring cell carcinoma and metastatic melanoma. Immunohistochemically decidual cells are vimentin and progesterone-receptor-positive and focally-positive for desmin and smooth muscle actin. Immunoreactivity for both cytokeratin and calretinin favors a diagnosis of decidualoid mesothelioma, while cytokeratin positivity alone may bring into the consideration a metastatic carcinoma. A diagnosis of metastatic melanoma should be confirmed by positive S-100 and HMB-45 immunostaining [1, 9, 14].

In conclusion, pregnancy-related ectopic decidual tissue is a benign lesion and resolves without any treatment within 4 to 6 weeks post partum [8] but should be kept in mind by pathologist in case of microscopic differential diagnosis of peritoneal lesions.

*The authors declare no conflict of interest.*

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