CASE REPORT

Diffuse peritoneal decidualosis mimicking metastatic lesions

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SUMMARY

A 32-year-old woman with an uneventful antenatal period underwent a caesarean section for breech presentation. At laparotomy, there were multiple yellowish elastic nodules distributed along the parietal peritoneal surface, totalling over 30 lesions and worrying the surgical team. The conclusive diagnosis of peritoneal decidualosis was supported by pathological analysis (histology and immunohistochemistry). The present case reports an uncommon presentation of diffuse peritoneal decidualosis mimicking metastatic lesions.

BACKGROUND

Decidual cell groups outside the endometrium are named 'decidualosis' or 'ectopic decidua'.¹ This benign entity is the result of the metaplasia of the sub-coelomic pluripotent mesenchymal cells to progesterone.² Decidualosis is commonly localised in the pelvic organs serosa while the peritoneal localisation is rare.³ It is important to distinguish peritoneal decidualosis from the more alarming conditions it can simulate. We hereby describe one case of peritoneal decidualosis which resembled metastatic lesions during a caesarean delivery.

CASE PRESENTATION

A 32-year-old woman with an uneventful antenatal period underwent a caesarean section for breech presentation. On operating, there were multiple yellowish elastic nodules (largest measuring 8 mm) distributed along the parietal peritoneal surface, totalling over 30 lesions. The patient had no history of endometriosis. The larger lesions, measuring 6–8 mm, were biopsied. At inspection of the cavity, the appendix was normal and wasn't evidence of mucoid material neither myxomatosis like lesions.

INVESTIGATIONS

The microscopic examination of all lesions revealed similar histomorphological aspects. The cells were large, polygonal, with abundant eosinophilic cytoplasm, bland nuclei, inconspicuous nucleoli and dispersed chromatin (figure 1). There was focal nuclear pleomorphism, hyperchromasia and mitotic activity. No frankly metastatic tumour cell or granulomas were observed. The complementary immunohistochemical study of the lesions was positive to vimentin and progesterone receptor, and negative to pan-cytokeratin, calretinin and HMB-45 antibody. The conclusive diagnosis of peritoneal

ectopic decidua was supported by these findings allied to clinical history.

DIFFERENTIAL DIAGNOSIS

- ▶ Peritoneal tuberculosis;
- ▶ Malignant mesothelioma;
- ▶ Peritoneal metastasis (signet ring cell carcinoma and malignant melanoma).

TREATMENT

Most cases of peritoneal decidualosis are associated with normal pregnancy. The lesions involute spontaneously within 4–6 weeks postpartum when progesterone stimulus is ceased.^{3 4} Therefore, peritoneal decidualosis does not require any therapeutic intervention.⁵

OUTCOME AND FOLLOW-UP

The patient remained asymptomatic in the postpartum period. Abdominal ultrasound showed no reminiscent peritoneal lesion.

DISCUSSION

Ectopic decidua was first described in 1864 by Walker von Solothurn during the observation of two ectopic pregnancies.⁴ Its occurrence has been described in the cervix, endocervix, uterine and ovarian surface, ligaments and uterine tubes, bladder, renal pelvis, small intestine, vermiform appendix, large intestine, mesentery and other places such as spleen and pelvic lymph nodes.^{6–10} The peritoneal localisation is rare.²

The pathogenesis of ectopic decidua is not completely understood, but it is believed that it develops as a result of the metaplasia of subserosal stromal cells affected by the progesterone during pregnancy.^{8 9} Decidualosis is a clinicopathological process distinct from endometriosis.¹

Ectopic decidua is usually found incidentally during the surgery; the prevalence of peritoneal decidua is difficult to establish, ranging in different sites of the peritoneum reached. A study of biopsies performed in 60 pregnant women who were operated for complications of pregnancy or elective caesarean showed 48 cases of ectopic peritoneal decidua, the focal form being 97% and diffuse decidualosis 3%.¹¹

Decidual cells are generally large polygonal, with homogeneous, eosinophilic cytoplasm and vacuolar degeneration at various rates can be seen in these cells.²

The diffuse form, like the presented case, is easily confused with a metastatic tumour, making

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Figure 1 Decidual cell nodule (centre) in peritoneal surface (H&E, ×100).

the performance of the differential diagnosis by immunohistochemistry necessary in some situations.^{3 12} Decidual cells are vimentin and progesterone-receptor-positive and focally positive for desmin and smooth muscle actin. Immunoreactivity for calretinin and cytokeratin 5/6 favours a diagnosis of deciduoid mesothelioma, while cytokeratin positivity supports a metastatic carcinoma.¹

Learning points

- ▶ Peritoneal decidual reaction develops with the effect of progesterone in pregnancy and disappears without complication in the postpartum period.
- ▶ Immunohistochemical studies are helpful in differentiating peritoneal decidual reaction from other diseases.
- ▶ Peritoneal decidual reaction may present a diagnostic dilemma by mimicking grossly malignant lesions.

The clinical presentation and course is generally asymptomatic. The most severe complication is intra-abdominal bleeding.

In conclusion, pregnancy-related peritoneal decidual reaction is a benign lesion that resolves with no treatment in the postpartum period. The present case report demonstrates an uncommon presentation with multiple peritoneal nodules. Peritoneal decidual reaction must be kept in mind for differential diagnosis because it can mimic other diseases (tuberculosis or malignant tumours).

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Competing interests None.

Patient consent Obtained.

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