



Ectopic Mesenteric Deciduositis Imitating Peritoneal Carcinomatosis: a Case Report

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Abstract

Ectopic deciduositis in the omentum and peritoneum is usually encountered incidentally during cesarean section and is a rare condition. It is usually not accompanied by any symptoms or complications and does not require treatment. Although the pathophysiology is not fully understood, it is accepted that peritoneal deciduositis develops as a result of progesterone-induced metaplasia of subserosal stromal cells during pregnancy. Pathological evaluation is very important because the lesions can be confused macroscopically with diseases such as peritoneal carcinomatosis or tuberculosis. This hormonal and physiological condition has a very good prognosis and resolves spontaneously after delivery. In this case, we present a clinical phenomenon of mesenteric deciduositis encountered during cesarean section and diagnosed pathologically after surgery.

Keywords Cesarean section · Mesenteric deciduositis · Peritoneal carcinomatosis · Pregnancy

Introduction

Ectopic deciduositis can be observed in various localizations such as ovaries, fallopian tubes, vagina, peritoneum, omentum, kidneys, and lungs [1]. This condition is mostly caused by pregnancy; however, non-pregnancy cases have also been encountered in iatrogenically abnormal hormone exposure [2].

Desiduositis is a benign condition that typically causes no symptoms and resolves spontaneously 4–6 weeks after birth. Ectopic deciduositis, which is completely hormonal and physiological, entered the literature in 1887. When the

cesarean section cases with omentum biopsy were examined; decidualized tissue was observed in all omentums, with microscopic involvement or small nodules in 97% and large lesions in 3%. The development of decidualized tissue until it can be seen macroscopically is rarely observed; but in this case, the risk of confusion with carcinomatosis lesions is high [3]. Diffuse omental and peritoneal involvement is a finding that can mimic peritoneal carcinomatosis and mislead physicians. This can make clinicians prone to rash decision-making, which can be even more diagnostically challenging.

Case Report

A 35-year-old patient with a history of one normal delivery was admitted to the delivery room due to amniotic membrane rupture at the 40th gestational week. All routine examinations were normal throughout her pregnancy. Emergency cesarean section was performed under general anesthesia with the suspicion of acute fetal distress following abnormal fetal heart rate. A baby girl weighing 3250 g, who had been crying since birth and had an Apgar score of 9/10, was delivered. Informed consent was obtained from the patient for our case report, and patient anonymity was preserved.

During the cesarean section, the mesentery had a nodular, edematous, suspicious appearance. Numerous nodular

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Fig. 1 Suspicious nodular lesions in the mesentery measuring approximately 10 mm in largest

vegetations of varying sizes were present, the largest measuring approximately 10 mm (Fig. 1). Adnexal regions were rich in vascular structures due to pregnancy. Since it has an appearance mimicking peritoneal carcinomatosis, the inside of the abdomen was examined in detail, but no other pathological structure was found. A general surgeon was also involved in the surgery. There were nodules on the intestinal mesentery, serosa, and uterus. The nodules were not seen on any antenatal ultrasound until the moment of surgery. No gross pathology was detected in ovaries and tubas. Biopsies were performed from the mesentery for definitive diagnosis. Biopsies were also taken from the foci on the uterine serosa. Pink-white tissue fragments measuring $2 \times 1 \times 0.8$ cm, some of which had a soft elastic consistency, were collected from the intestinal mesentery and uterine serosa and examined.

Peritoneal carcinomatosis or infectious events were excluded in the differential diagnosis with histological examination. Although the appearance was macroscopically as vegetations, nodules were observed regularly in histological appearance. While low mitotic activity of cells distracts us from the diagnosis of carcinomatosis, its eosinophilic nature brought us closer to the diagnosis of decidualis. In the immunohistochemical examination, the diagnosis of ectopic mesenteric decidualis (Fig. 2) was definitively established with vimentin-positive (Fig. 3) and progesterone receptor-positive (Fig. 4) lesions.

No complications were observed in the postoperative follow-up, and the patient was discharged on the second postoperative day. On postpartum day 40, no complications were observed in the mother and baby, and physical examinations were normal.

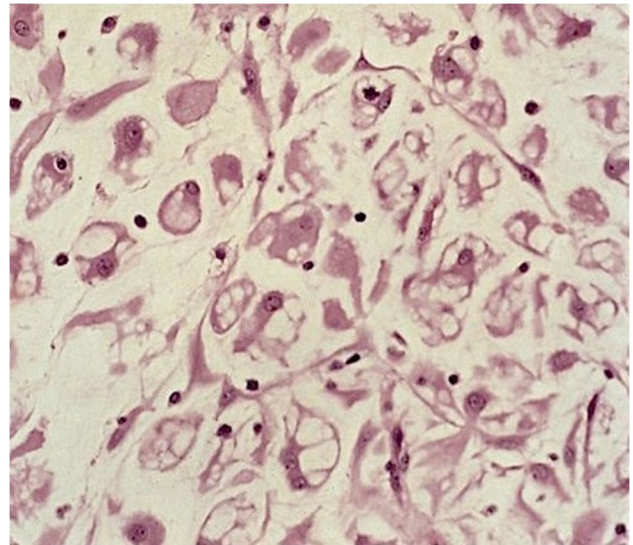


Fig. 2 Decidual cell groups in the mesentery ($\times 400$)

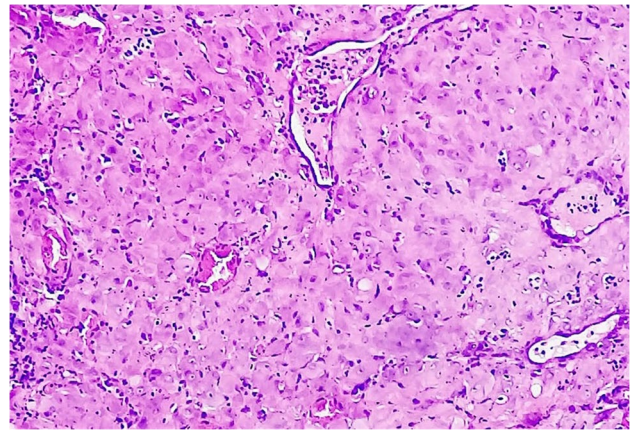


Fig. 3 Vimentin positivity in the decidual cells ($\times 200$)

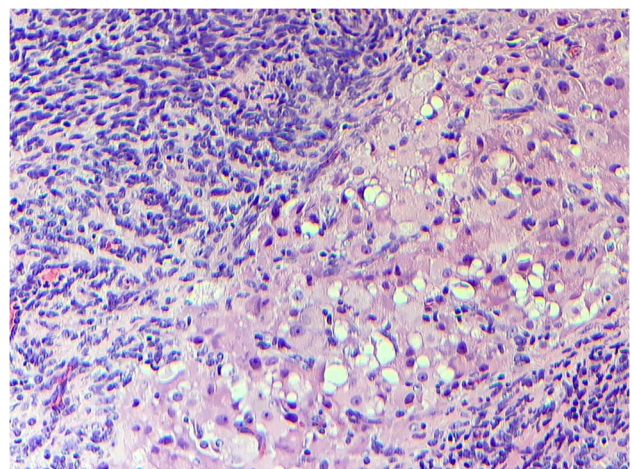


Fig. 4 Progesterone receptor positivity in the decidual cells ($\times 200$)

Discussion

Decidualization occurs physiologically during pregnancy [4]. It is formed by steroid hormones secreted by the ovaries and placenta [5]. The main purpose is to assist the implantation of the embryo. Decidualization causes various histological changes in endometrial and stromal cells. The macroscopic appearance of ectopic decidualization is insidious because it lacks specific features and can easily be mistaken for a tumor. In general, it manifests as yellow and tan, elastic, sometimes focal hemorrhagic nodules or plaques, localized on the surface of the uterus, fallopian tubes, ovaries, and pelvic peritoneum, without any exudate. Cells that are round or oval develop into large cells with eosinophilic or basophilic cytoplasm, with enlarged nuclei, producing various growth factors (such as epidermal growth factor/EGF, fibroblast growth factor/FGF, and insulin growth factor/IGF) [6]. A thorough pathologic evaluation of surgical specimens, key to the diagnosis of ectopic decidualization, requires time and resources and cannot be performed intraoperatively with frozen sections [7].

Confirmation of the diagnosis of decidualization was made possible by immunohistochemistry. Vimentin-positive lesions proved the presence of smooth muscle that was always present during decidualization of the endometrium [8]. On the other hand, the presence of progesterone receptors showed that endometrial tissue, which is renewed in each menstrual cycle, is found in lesions encountered during surgery. These histological and immunohistochemical markers supported our diagnosis of ectopic decidualization.

Sorokin et al. showed that ectopic decidualization may cause complications such as hemothorax, hematuria, hydronephrosis, and peritoneal hemorrhage, although rare [7]. A recent report by Casanova et al. showed complete recovery of ectopic decidualization after delivery [3]. In our case, since the patient had no postpartum symptoms and the pathology report was benign, we did not use any imaging method for postpartum control based on previous reports in the literature.

Conclusion

Ectopic decidualization is usually encountered incidentally during cesarean section. Unfortunately, ectopic decidualization is often not seen by imaging methods due to the small size of the nodules and the different tissue density. Although it can cause complications such as peritoneal hemorrhage,

hydronephrosis, metrorrhagia, hematuria, and hemothorax, these complications are very rare. This condition almost always heals completely and spontaneously after pregnancy.

Declarations

Data Availability All data generated or analysed during this study are included in this published article.

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