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Case Report

Ectopic decidual reaction – A diagnostic dilemma

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ABSTRACT

The occurrence of decidualization outside the endometrium, is called as ectopic decidual reaction. It can involve any abdominal organs, such as ovary, fallopian tube, cervix, uterine surface, omentum, etc. and present as grey white nodules. These nodules grossly mimic metastatic disease and granulomas, causing a diagnostic dilemma. Decidual reaction is a benign condition and can regress spontaneously in the postpartum period. Thus, it is important to accurately diagnose these lesions for optimal treatment. Histologic examination followed by immunohistochemistry can be performed on the biopsies sampled during cesarean sections, tubal ligation, appendectomy, etc. to obtain a correct diagnosis. Peritoneal location of ectopic decidua is less frequent and can be an incidental finding. Few patients may present with the symptoms of abdominal pain, hemorrhage or irritable bowel syndrome. We thereby, report a case of peritoneal ectopic decidual reaction and discuss its histopathological features, immunohistochemistry and the differential diagnosis.

1. Introduction

Decidualization is a functional and morphological change seen in the endometrium during pregnancy under the effect of progesterone hormone. When this decidualization occurs outside the endometrium, it is called as ectopic decidual reaction.[1] Cases of ectopic decidual reaction has been described in ovaries, fallopian tube, cervix, uterine surface, omentum and various other abdominal organs.[2,3] Peritoneal decidual reaction is rare. These changes are commonly encountered in pregnant women due to the effect of progesterone hormone and are rare in non-pregnant women. These lesions are benign and mostly regress spontaneously during postpartum period.[4] The patients are usually asymptomatic and these lesions are frequently diagnosed incidentally during caesarean section or laparotomy for appendectomy or tubal ligation. Few patients may present with the symptoms of abdominal pain, hemorrhage or irritable bowel syndrome. Ectopic decidual reaction presents as grey white nodules and grossly mimic malignancy or granulomatous disease.[5,6] Thus, it is important to biopsy these lesions for accurate diagnosis and further management.

We thereby, present a rare case of peritoneal ectopic decidual reaction diagnosed incidentally on caesarean section of a term pregnancy.

2. Case History

A 35 years old female, G2P1L1 presented with complaints of headache, facial edema and 32 weeks of amenorrhea. Following clinical examination and complete investigations she was diagnosed with impending eclampsia and thus emergency LSCS was performed. A live preterm male child was delivered. Intraoperative findings showed small left

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ovarian cyst and indurated and hard omentum. Biopsy was taken from the omentum and sent for histopathological examination. Postpartum period was uneventful.

Pathological findings – Two fibrofatty tissue bits were received altogether measuring 4.5x3.0x1.0 cm. Surface showed grey white tiny nodules. Microscopic examination revealed submesothelial nodules of large polygonal cells. The cells showed eosinophilic cytoplasm with vesicular nuclei. Also seen were cells with indented nuclei and vacuolated cytoplasm resembling physaliphorous like cells. Stroma surrounding these cells was myxoid. (Figure 1) There was no mitosis or necrosis. Immunohistochemistry was performed for confirmation of the diagnosis. The cells stained positive for CD10, vimentin and hormone receptor (PR) and negative for calretinin and pancytokeratin (panCK).(Figure 2) Based on the above findings, case was reported as ectopic decidual reaction.

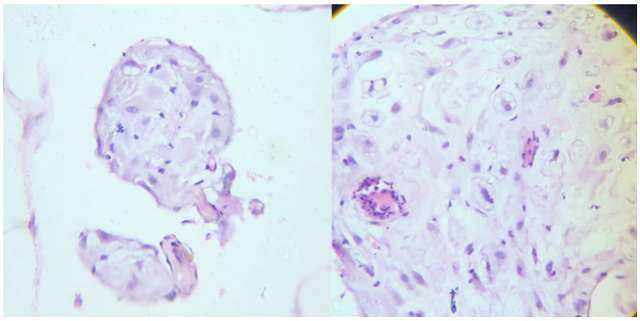

Fig. 1: H&E*400, Nodules ofdecidual cells with cytoplasmic vacuolation and stromal myxoid changes.

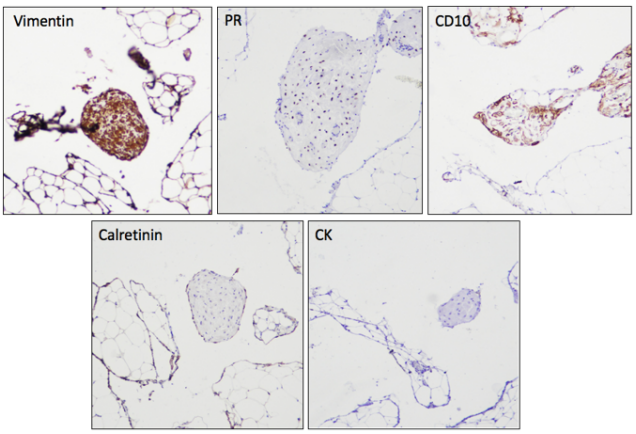

Fig. 2: Immunohistochemistry*100,The decidual cells stained positive for Vimentin, PR and CD10 and negative for Calretinin and CK.

3. Discussion

Deciduosis is a physiological phenomenon which occurs under the effect of progesterone hormone in pregnant women. But it can be also seen in non-pregnant or post menopausal women due to release of progesterone or progesterone like substance from corpus luteum or adrenal cortex. The etiology behind ectopic decidual reaction is not clear. The most supported theory for pathogenesis of decidualization is that it occurs due to metaplasia of subserosal stromal cells and submesothelial mesenchymal cells based on location.[7] This theory is further supported by the fact that these lesions regress spontaneously following removal of hormonal stimulus. Other theory proposed is that these decidual cells develop “de novo” as they can present at any location.[8] Decidual reaction can be seen in patients with previous endometriosis. But in that case, a previous history of endometriosis can be obtained or there may be other areas of endometriosis. Microscopically, in pregnant females showing decidualized endometriosis, there will be presence of additional findings such as areas of hemorrhage, Arias Stella reaction, fibrosis and atrophic endometrial glands. In our patient there was no history of endometriosis. Also the microscopic features described above were not present.

Ectopic decidual reaction may present as focal reaction or diffuse nodules. In this case omentum was diffusely involved and showed hardening and induration. It is important to biopsy these lesions, as they are mimickers of malignant and granulomatous lesions.

Microscopically, clusters of decidual cells are seen in ectopic decidual reaction similar to those seen in endometrium under the influence of progesterone. The cells are large and show round nuclei with prominent nucleoli and abundant eosinophilic cytoplasm. These cells may undergo regressive changes and develop cytoplasmic vacuolization and may be wrongly interpreted as physaliphorous like cells or signet ring cells or lipoblasts.[9,10] However, there will be no mitotic figures or necrosis as seen in malignant tumours. In our case, cells showed cytoplasmic vacuolation and background showed myxoid changes, creating a diagnostic dilemma with possible differentials of metastatic adenocarcinoma and malignant deciduoid mesothelioma. In such cases, a panel of immunohistochemical markers needs to be performed for confirmation of diagnosis. The decidual cells show cytoplasmic positive staining for Vimentin and nuclear positive staining for PR. The cells may also show focal positive staining for smooth muscle actin (SMA) and desmin.[9] The differential diagnosis to be considered are signet ring cell carcinoma, malignant melanoma, malignant deciduoid mesothelioma, epithelioid leiomyosarcoma, rhabdomyosarcoma and epithelioid trophoblastic tumour. In signet ring cell carcinoma, cells stain positive for cytokeratins and in malignant melanoma, cells stain for S100 and melan A. Malignant deciduoid mesothelioma cells show positive staining for CK5/6 and calretinin and rhabdomyosarcoma cells show positive staining for desmin, myoD1 and myogenin. Epithelioid trophoblastic tumour is

positive for p63, HLA-G and inhibin. In our case, there were no features of malignancy such as mitosis and necrosis. The immunohistochemistry showed tumour to be positive for vimentin, PR and CD10 and negative for calretinin and CK, thus confirming the diagnosis of ectopic decidual reaction.

4. Conclusion

It is important to diagnose ectopic decidual reaction accurately as they regress spontaneously in 4-6 weeks, on removal of progesterone stimulation.[4] No exhaustive treatment is required as for metastatic malignancies or granulomatous disease. To obtain an accurate diagnosis, complete clinical details should be sought for and if required immunohistochemistry can be applied following histopathological examination.

5. Conflicts of Interest

There are no conflicts of interest.

6. Source of Funding

None.

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