



Scar Endometriosis: A Case Report Diagnosed on Fine Needle Aspiration Cytology with Histopathological Correlation

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Abstract

Endometriosis is defined as the presence of a functioning endometrium outside the uterus. Abdominal wall endometriosis is a rare entity.

Usually both epithelium and stroma are seen, but occasionally the diagnosis of endometriosis can be made when only one component is present.¹ It occurs in 8-15% of women of reproductive age group. It can involve a variety of extrauterine locations - both genital and extra-genital. Extra-genital endometriosis can be seen in such varied locations as intestines, lungs, pleura, kidneys and surgical scars. Cutaneous endometriosis is usually seen in abdominal scars following obstetric or gynaecologic surgery. Surgical scar endometriosis following cesarean section has an incidence of 0.03%-0.4%. It can be clinically confused with abscess, suture granuloma, hematoma, desmoid tumor, or primary and metastatic cancer.²

We report a case of scar endometriosis following caesarean section and diagnosed by fine needle aspiration cytology (FNAC).

There are very few cases of endometriosis diagnosed by FNAC

Scar endometriosis is a rare condition that affects women of reproductive age because of typical clinical history and clear-cut cytomorphological features. Cytodiagnosis of scar endometriosis was rendered without any difficulty in this patient. Thus, FNAC is an inexpensive, rapid and reliable method to conclude the diagnosis before surgery.

Introduction

A 28 year old female presented with history of swelling in the lower abdominal wall since 2 years. The patient was referred for FNAC. She gave a history of pain over the swelling which increased during menstruation. The patient had undergone caesarean section two and a half years back. On examination, a solitary mass was noted

in the lower abdominal wall over the caesarean section scar. The mass measured approximately 3.5x3.5cm in size, firm to hard in consistency, immobile and tender on palpation.

Cytology

FNAC from the abdominal lump was carried out. Smears were air dried and were fixed in 95%

ethanol and stained with hematoxylin and eosin stain. FNAC revealed cellular smears composed of mono-layered sheets of round to oval cells having moderate amount of cytoplasm and round to oval bland nuclei with moulding of nuclei. Also seen were many spindle shaped cells admixed with the above mentioned epithelial cells in the background of apoptotic debris, numerous hemosiderin laden macrophages and hemorrhage (Figure 1). Based on the above findings and clinical history, a diagnosis of endometriosis was made.

Histology

An excision biopsy was performed and we received a specimen of size 3x2cm, whitish, firm in consistency. Microscopy revealed the presence of endometrial gland along with endometrial stroma, thus confirming the cytology report.

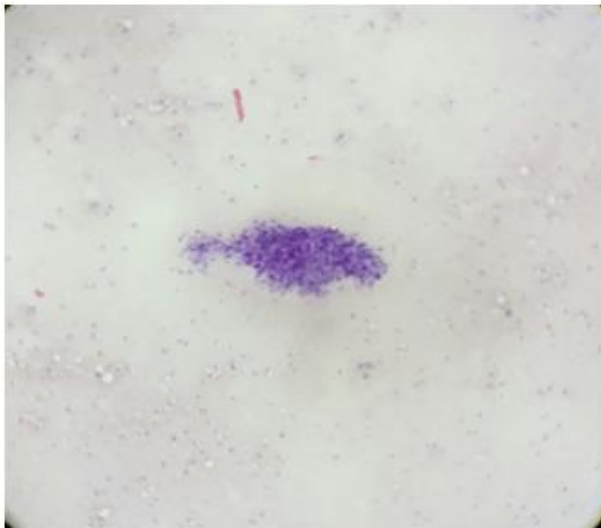


Fig 1: low power view showing cluster of spindle shaped cells

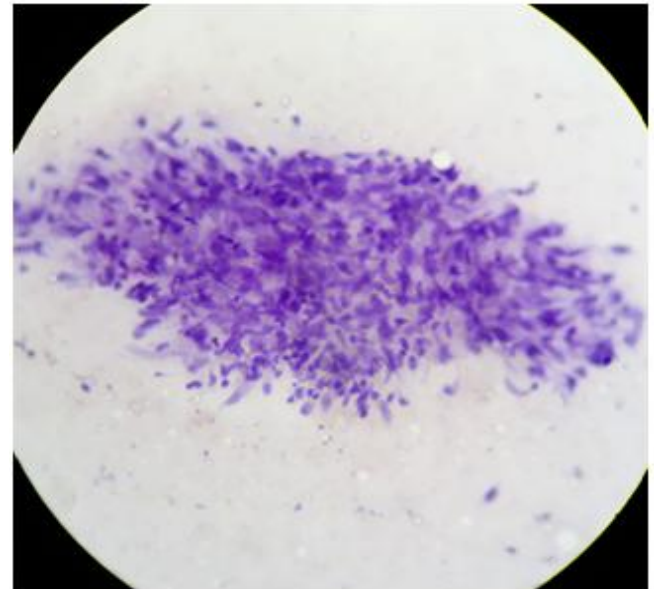
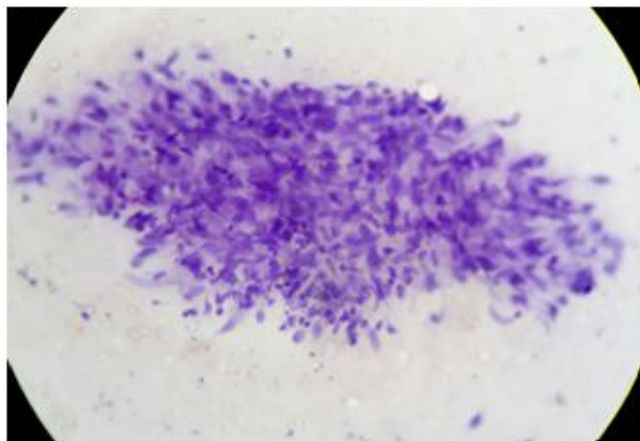


Fig 2 & 3: high power view showing spindle shaped cells

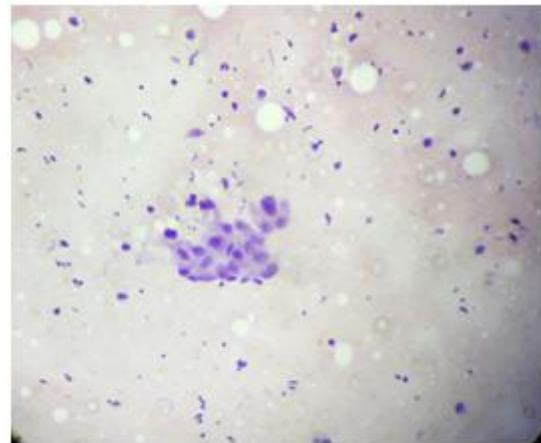


Fig 3: high power view showing round to oval cells

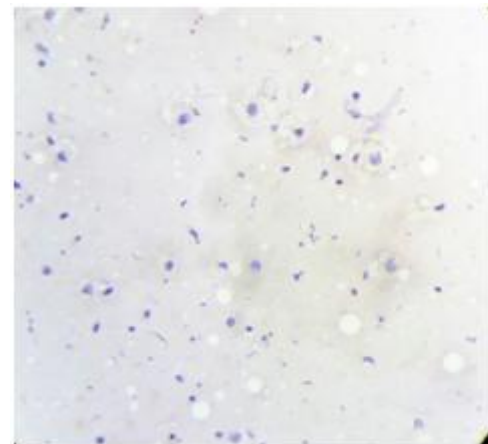


Fig 4: high power view showing numerous cyst macrophages on hemorrhagic background

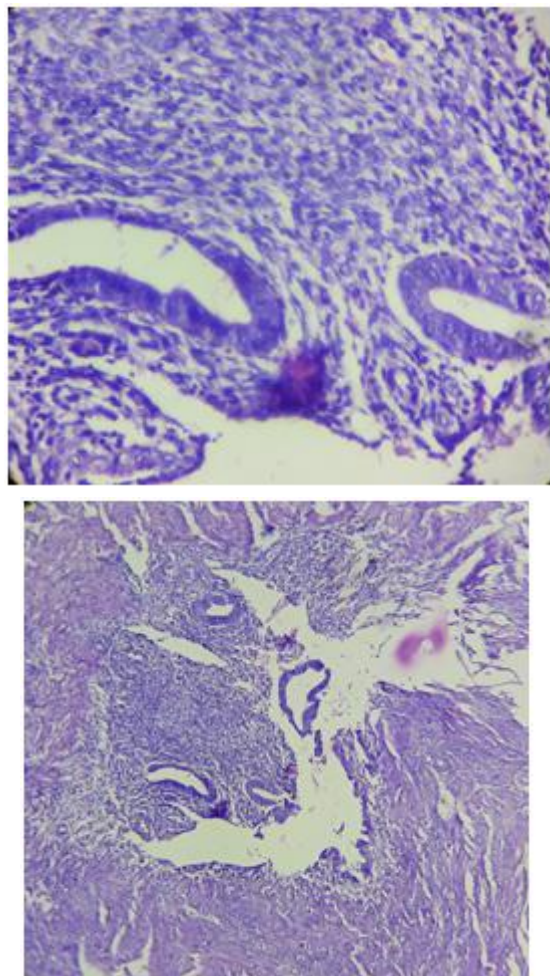


Fig 5: biopsy sections showing the presence of endometrial glands and stroma.

Discussion

- Endometriosis refers to functional endometrial glands and stroma lying outside the uterine cavity. Endometriosis occurring in a surgical scar is called incisional endometriosis or scar endometriosis.³
- The first case of scar endometriosis was reported by Meyer in 1903.⁴ Most surgical reports indicate that pre-operatively, the condition is often confused with other pathologic conditions such as incisional hernia, suture granuloma, abscess or lipoma. Majority of the reported cases have been observed in and adjacent to surgical scar following caesarean sections, hysterectomy, hysterotomy and, rarely, following surgeries on fallopian tube, appendectomy, amniocentesis and episiotomy.⁵

- Two theories concerning the pathogenesis have been proposed: 1) Metastatic theory that states that it is the transport of endometrial cells to adjacent location via surgical manipulations, hematogenous or lymphatic dissemination and 2) Primitive pluripotential mesenchymal cells undergo specialized differentiation and metaplasia into endometrial tissue (metaplastic theory).⁶
- The interval between onset of symptoms in a patient and patient's surgery varies between 3 months and 10 years. Clinically, the scar endometriosis present as a lump in the scar. Increasing in size of the lump, bleeding and skin discoloration with cyclical changes of menstruation are not characteristically seen in all cases; however, if present, they are pathognomonic of scar endometriosis⁷. As the nodule is firm, it can easily be diagnosed by FNAC⁸ thus helping in differentiation from the metastatic disease, desmoids tumor, lipoma, sarcoma, cysts, nodular and proliferative fasciitis, fat necrosis, hematoma or abscess.^{6,9}
- Various non-invasive diagnostic imaging modalities like USG with colour Doppler, CT scan and MRI are able to give correct diagnosis but lack specificity.¹⁰
- In clinically doubtful cases, FNAC can be a valuable diagnostic tool. Cytology smears show sheets of epithelial cells, spindle stromal cells and a variable number of hemosiderin laden macrophages. The stromal cells are plump, spindle and arranged around a vascular meshwork. The presence of any two of the three components is required for the diagnosis of endometriosis.³ Monolayered sheets of round to oval cells with moderate amount of cytoplasm admixed with spindle shaped cells and hemosiderin laden macrophages was seen in our smears. The importance of FNAC lies in excluding other lesions like abscess, suture granuloma, hematoma,

desmoid tumor, or primary and metastatic cancer. Absence of inflammatory cells, foreign body granulomas, and atypical or neoplastic cells in our smears ruled out the above mentioned possibilities.

- Scar endometriosis is a rare condition that affects women of reproductive age because of typical clinical history and clear-cut cytomorphological features. Cytodiagnosis of scar endometriosis was rendered without any difficulty in this patient. Thus, FNAC is an inexpensive, rapid and reliable method to conclude the diagnosis before surgery.

References

1. Philip BC, Robert HY. The peritoneum. In: Stacey EM, Daryll C, Joel KG, Victor ER, Mark HS, eds. Sternberg's Diagnostic Surgical Pathology. 5th ed. Philadelphia: Lippincott Williams and Wilkins; 2010: 2392-2418.
2. Sengul I, Sengul D, Kahyaoglu S, Kahyaoglu I. Incisional endometriosis: a report of 3 cases. *Can J Surg.* 2009;52(5):444-5.
3. Veda P, Srinivasaiah M. Incisional endometriosis: Diagnosed by fine needle aspiration cytology. *J Lab Physicians.* 2010;2:117-20.
4. Agarwal N, Subramanian A. Endometriosis -morphology, clinical presentations and molecular pathology. *J Lab Physicians.* 2010;2:1-9.
5. Goel P, Sood SS, Dalal A, Romilla. Cesarean scar endometriosis-report of two cases. *Indian J Med Sci.* 2005;59:495-8.
6. Catalina-Fernández I, López-Presa D, Sáenz-Santamaria J. Fine needle aspiration cytology in cutaneous and subcutaneous endometriosis. *Acta Cytol.* 2007;51:380-4
7. Gajjar KB, Mahendru AA, Khaled MA. Cesarean scar endometriosis presenting as an acute abdomen: A case report of review and literature. *Arch Gynecol Obstet.* 2008;277:167-9.
8. Blanco RG, Parthivel VS, Shah AK, Gumbs MA, Schien M, Grest PH. Abdominal wall endometriomas. *Am J Surg.* 2003;185:596-8.
9. Pathan SK, Kapila K, Haji BE, Mallik MK, Al-Ansary TA, George SS, et al. Cytomorphological spectrum in scar endometriosis: A study of eight cases. *Cytopathology.* 2005;16:94-9.
10. Giampiero F, Cristiano G, Giovanni A, Stefano C, Raffaele F, Giampado T. Abdominal wall endometriomas near cesarean delivery scars: sonographic and color Doppler findings in a series of 12 patients. *J Ultrasound Med.* 2003;22:1041-7.