



## SCAR ENDOMETRIOSIS: DIAGNOSIS BY FINE NEEDLE ASPIRATION

### Pathology

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### ABSTRACT

Endometriosis is defined as the presence of a functional endometrium outside the uterus. Abdominal wall endometriosis is a rare entity. Most of the abdominal wall endometriosis occurs in or around surgical scars following caesarean section. We report a case of scar endometriosis following caesarean section and diagnosed by fine needle aspiration cytology (FNAC). Excision biopsy confirmed the FNAC diagnosis of scar endometriosis.

### KEYWORDS

Abdominal wall endometriosis, FNAC, Scar endometriosis

### INTRODUCTION

Endometriosis is defined as the presence of a functioning endometrium outside the uterus.[1,2] It is a common gynecological condition that affects up to 22% of all women, 8-15% of women of reproductive age and 6% of premenopausal women.[3,4] Most of the reported cases occurred in gynecologically induced abdominal or pelvic scars, including hysterectomy, episiotomy, caesarean section and laparoscopy. [2,3,4,5,6] It is extremely rare in a surgical scar, appearing in 0.1% of women who have undergone caesarean section.[5] Its clinical diagnosis is confused with suture granuloma, hematoma, abscess, sarcoma, desmoid tumor and metastatic malignancy.[2,3,4,5] We report a case of scar endometriosis in a woman who underwent caesarean.

### Case Report

A 32-year-old female presented with mass of 2 years' duration near a previous caesarean section scar that was gradually increasing in size. It was associated with cyclic pain during menstruation in the swelling and polymenorrhea. On examination, the nodule was 4cm × 3 cm, well defined, firm, tender on palpation and non-reducible. Ultrasound abdomen showed a nodule that was well defined and anechoic, and there was no other significant contributory finding. The clinical differential diagnosis was suture granuloma, hematoma, melanoma and desmoid tumor. The patient was then referred for fine needle aspiration cytology (FNAC).

### Cytology

FNAC from the abdominal lump was carried out. Some smears were air dried and stained with Giemsa stain. The smears were cellular, consisting of epithelial and stromal fragments. The epithelial cell was arranged in monolayer sheets of polygonal cells with large, hyperchromatic nuclei and moderate amount of cytoplasm, with considerable nuclear overlapping. The stromal aggregates also showed crowded overlapping nuclei and scant admixed hemosiderin-laden macrophages; mild to moderate epithelial atypia was observed in this case [Figures 1 and 2]. Subsequent biopsy confirmed finding of endometriosis.

### Discussion

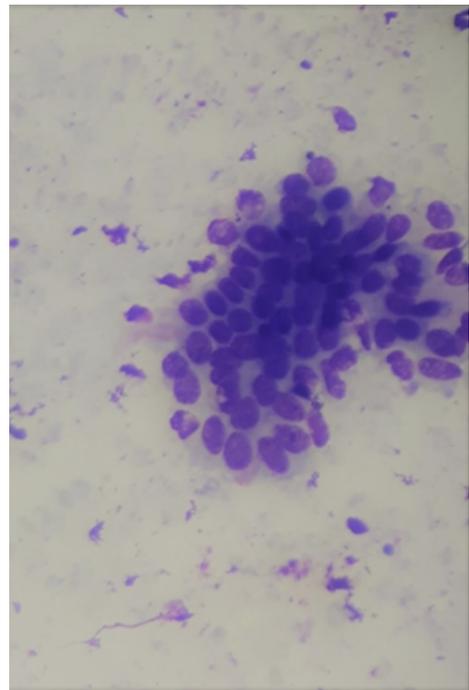
Majority of the reported cases have been observed in and adjacent to surgical scar following caesarean sections, hysterectomy, hysterotomy and, rarely, following surgeries on fallopian tube, appendectomy, amniocentesis and episiotomy.[7]

Two theories concerning the pathogenesis have been proposed:

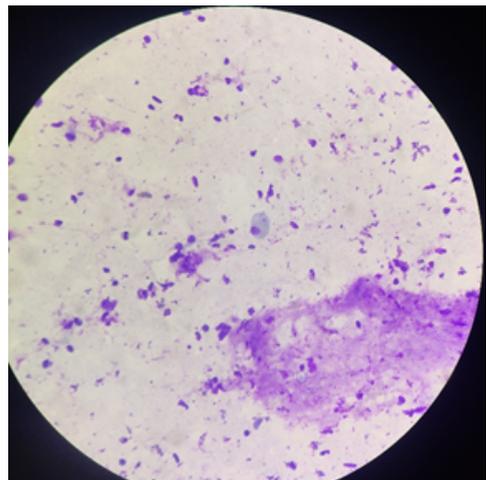
1. Metastatic theory that states that it is the transport of endometrial cells to adjacent location via surgical manipulations, hematogenous or lymphatic dissemination and
2. Primitive pluripotential mesenchymal cells undergo specialized differentiation and metaplasia into endometrial tissue (metaplastic theory).[3]

Smears from endometriomas show varying cellularity comprising epithelial and spindle stromal cells, with variable number of hemosiderin-laden macrophages and inflammatory cells.[3] The presence of any two of the three components (endometrial glands, stromal cells and hemosiderin-laden macrophages) has been used for the cytological diagnosis of endometriosis.[5] 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.



**Figure 1-Fine needle aspiration cytology of endometrial scar showing endometrial glands**



**Figure 2- Fine needle aspiration cytology showing macrophages and stromal cells (Giemsa, ×40)**

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**Conflict of Interest:** None declared.

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