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Cytological diagnosis of abdominal scar endometriosis

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Abstract

The aim of the article is to present a rare case of scar endometriosis on anterior abdominal wall diagnosed by fine needle aspiration cytology in a 29 year old lady who underwent caesarean section 3 years ago. Endometriosis is a common disease during reproductive age. It can involve variety of extra-uterine sites and is very rarely found cutaneously/subcutaneously (<4%). In such cases fine needle aspiration cytology provides a safe and effective method of evaluation for early diagnosis and treatment.

Key Words: Endometriosis, Fine needle aspiration cytology, Scar.

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INTRODUCTION

Endometriosis is a common disease during reproductive age. It is defined by the presence of endometrial tissue outside the endometrium and myometrium. It can involve variety of extra-uterine sites and is very rarely found cutaneously/subcutaneously. [1] Fine needle aspiration cytology provides a safe and effective method for evaluation of abdominal wall endometriosis[1,2].

Most of the documented cases of abdominal wall endometriosis occur following gynecologic or obstetric operations within surgical scars and few cases occur spontaneous. Clinically they present as firm, palpable nodules which must be evaluated and differentiated from other benign and malignant abdominal wall tumors [2]. Risk of endometriosis is seven times greater if a mother or sister had the disease [3].

CASE PRESENTATION

Twenty nine year old lady presented with a mass over surgical scar on anterior abdominal wall measuring 5cm in its maximum diameter with a history of cyclical pain and bleeding from the scar site during menstruation since last 5 months. She underwent caesarean section 3 years ago.

The radiological findings [Ultrasonography and colour doppler study (figure 1)] of the mass were not specific. Ultrasound guided fine needle aspiration (FNA) was performed followed by adequate excision for histopathological evaluation.

The fine needle aspiration showed biphasic component, composed of stromal fragments and epithelial sheets. The epithelial clusters were arranged in a honeycomb pattern, contained round to oval nuclei and were well spaced. There was no evidence of nuclear pleomorphism, hyperchromasia and atypical mitotic figures. The scattered stromal fragments were bland, fusiform to spindle cells. The background showed fibrofatty tissue fragments and scattered chronic inflammatory cells with hemosiderin laden macrophages.

Based on these findings abdominal scar endometriosis was diagnosed on FNA and later was confirmed on histopathology(figure 2-4).

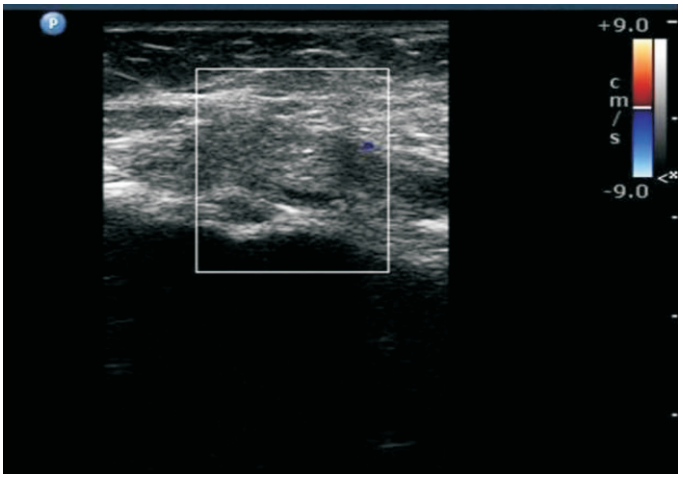

Figure 1: Colour Doppler study – Non- reactive

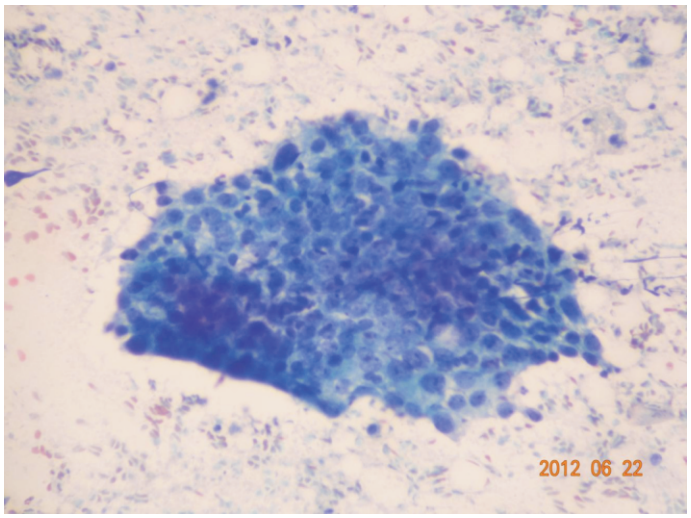

Figure 2: FNAC showing endometrial cells arranged in honey comb pattern (10X Giemsa stain)

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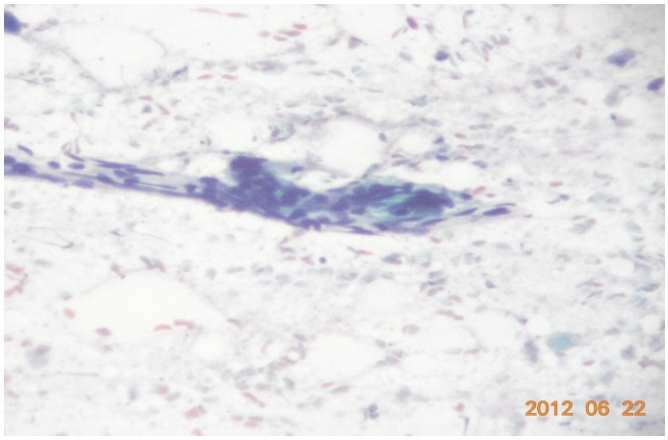

Figure 3: FNAC showing sheets of endometrial stromal cells (10XGiemsa stain)

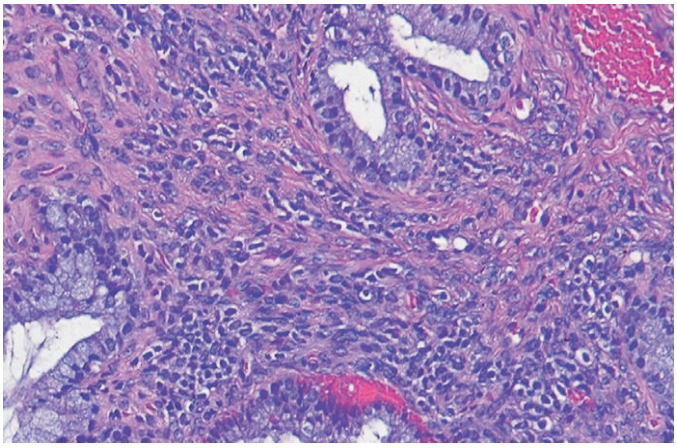

Figure 4: Histopathology showing endometrial glands (10X H & E stain)

DISCUSSION

Isolated abdominal wall endometriosis is rare (which is up to 4%), while associated pelvic endometriosis was found in 26% of cases of scar endometriosis [4].

Most of the reported abdominal wall endometriosis occurs at the site of surgical scars of previous gynecological or obstetrical operations. Some authors found that mid trimester hysterotomy was the most common procedure performed before the development of scar endometriosis [4].

Several theories have been raised behind the pathogenesis of endometriosis: implantation theory, direct extension theory, coelomic metaplasia theory (metaplasia of the peritoneum), and induction theory (the sloughed endometrium produces a substance that forms), lymphatic and vascular metastasis theory and composite theory [5].

Most authors favor implantation and induction theories for abdominal scar endometriosis. In induction theory, the product of the sloughed endometrium can induce the formation of endometriosis, though the viability of the sloughed material is not a requirement.[6] In implantation theory, the viability and ability of the sloughed endometrium to implant is important. This theory is supported by a greater frequency of endometriosis after abdominal hysterotomy than cesarean section, suggesting that the late pregnancy decidua has a lower ability to implant [1,5].

Uncommon manifestations of endometriosis are stromal-predominant lesions and intravascular examples, each of which can resemble endometrioid stromal sarcoma. Extensive hemorrhage and scarring over a prolonged period can give rise to necrosis with an associated fibroblastic and inflammatory response (necrotic pseudoxanthomatous nodules) in which endometrial glands and stroma are not evident [6].

Carcinomas that develop in endometriosis are almost always either endometrioid or clear cell carcinomas. Some arise in the setting of endometriosis with hyperplasia or in association with so-called atypical endometriosis – endometriosis containing cytologically atypical cells. Carcinosarcomas (malignant mixed müllerian/ mesodermal tumors) have also been described. Sarcomas that arise in association with endometriosis are generally either endometrioid stromal sarcomas or müllerian adenosarcomas [6].

CONCLUSION

Effective utilization of fine needle aspiration cytology can offer an accurate, cost-effective and safe pre-operative diagnosis of endometriosis.

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