



# Diagnosis of primary abdominal wall endometriosis on cytology: An unusual presentation

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### ABSTRACT

Abdominal wall endometriosis is a rare type of extra pelvic endometriosis. The abdominal wall endometriosis mostly occurs in the pre existing laprotomy scars in the lower abdominal wall following caesarian section or hysterectomy. We present a case of primary abdominal wall endometriosis in arising in the anterior abdominal wall above umbilicus with no previous history of any surgery or scar, diagnosed on fine needle aspiration cytology. Primary abdominal wall endometriosis is extremely rare and can be clinically challenging, FNAC provides easy and reliable technique for diagnosing endometriosis.

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## INTRODUCTION

Endometriosis is presence of functioning endometrial tissue outside uterus. The common site of endometriosis is ovary, rectum, and urinary bladder. Abdominal wall is a rare site for endometriosis [1]. It usually arises on preexisting scar of previous caesarian section or hysterectomy. Primary endometriosis occurs with no pre existing scar in abdominal wall and is extremely rare. Sign and symptoms may include cyclical pain and change in color of swelling indicating functional nature of endometrial tissue.

## CASE REPORT

A 40 year old multiparous female presented with a blue to black nodular swelling over anterior abdominal wall from past 6 months that was slowly increasing in size. There was no history of any previous surgery. On examination the swelling was well defined, 3 x 3 cm, firm, tender and was felt subcutaneously (Figure 1).



Figure 1: Showing bluish nodular swelling over abdominal wall.

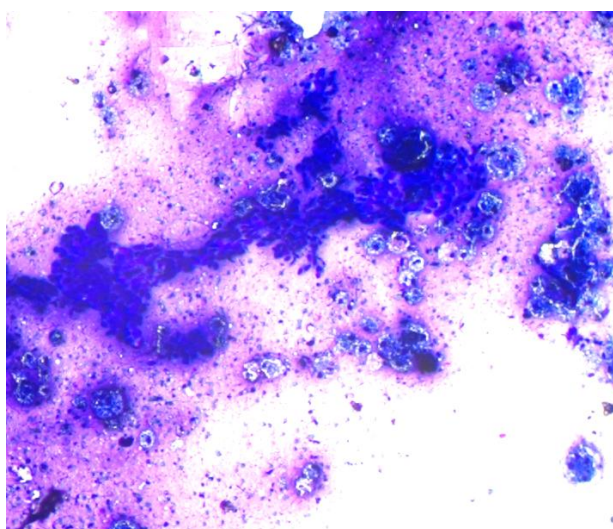


Figure 2: Giemsa stained smear showing round to oval, medium size endometrial cells along with macrophages over a hemorrhagic background.

Patient was referred for FNAC with a clinical diagnosis of hemangioma. On fine needle aspiration cytology (FNAC), the smears were cellular with monolayered sheets of small, round to oval, polygonal epithelial cells with scant cytoplasm. The nucleoli were round to oval with inconspicuous nucleoli. The stromal fragments consisting of oval to spindle cells arranged around vessels were appreciated. The background was predominantly hemorrhagic with numerous hemosiderin laden macrophages along with few naked nuclei. Based on above findings a diagnosis of endometriosis of anterior abdominal wall was given that was subsequently confirmed by histopathological findings (Figure 2).

## DISCUSSION

Endometriosis is defined as presence of functioning endometrium outside the uterus. Abdominal wall endometriosis is rare type of extra pelvic endometriosis. Abdominal wall endometriosis occurs in the post operative scars mostly in the lower abdominal wall following hysterectomy, caesarian sections, appendectomy, amniocentesis. Clinical diagnosis of abdominal wall endometriosis may be difficult because of relatively unfamiliar entity among general surgeons. A palpable subcutaneous mass in or around surgical scars with a history of previous caesarian section should lead to a clinical differential of abdominal wall endometriosis.[1]

The incidence of scar endometriosis depends on the type of surgery with higher incidence in scars of mid trimester abortion than caesarian section. The incidence may be attributed to pluripotential capability of early deciduas, resulting in cellular replication producing endometriomas.[ 2,3]

The more convincing metastatic theory proposes that endometrial cells get transported to other site via direct, hematogenous and lymphatic spread while the according to metaplastic theory, the pluripotent cells at the site undergoes the metaplastic change to the endometrial cells.[4]

Endometriosis arising from previous scarless abdominal wall is documented but rarely found.[5] The abdominal wall endometriosis presents as long standing slowly increasing painful, firm, nodular swelling over a preexisting scar with overlying bluish discoloration of skin and bleeding manifestation. The cyclicity of symptoms with menstruation is pathognomonic of endometriosis. The common clinical differentials of abdominal wall endometriosis are metastatic disease, desmoid tumor, sarcoma, nodular fasciitis, fat necrosis, hematoma or abscess.

The cytology smears shows epithelial cells, stromal cells in a hemorrhagic background with variable number of hemosiderin laden macrophages. The presence of either

two among epithelial cells, stromal cells and hemosiderin laden macrophages are sufficient for diagnosing endometriosis on cytology.[5]

Clinical differential diagnosis of abdominal swelling includes old hematoma, hemangioma, metastatic deposits and other soft tissue swelling like nodular fasciitis and desmoid tumor.[6] The smears from metastatic deposits show obviously malignant cells depending on the primary tumor. The desmoid tumor presents with scant cellularity with occasional spindle shaped cells. The hematoma presents with a history of trauma with smears showing lot of hemorrhagic background with and without hemosiderin laden macrophages with absence of characteristic endometrial cells. The nodular fasciitis present with pleomorphic cells in myxoid background.

Although FNAC provides a rapid and accurate diagnosis of endometriosis, the imaging modalities can define the extent of lesion for resection especially in cases of large and recurrent lesions. Surgical resection is the principal mode of treatment in endometriosis.

### CONCLUSION

Abdominal wall endometriosis is a very rare with most cases arising in a preexisting scar. A strong clinical suspicion is required for diagnosing primary abdominal wall endometriosis. FNAC provides a rapid, inexpensive and definitive diagnostic tool for diagnosing abdominal wall endometriosis.

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### COMPETING INTERESTS

None declared.

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