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Case Report

A Rare Case Report of Endometriosis in an Episiotomy Scar without Anal Sphincter Involvement

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Abstract

Endometriosis is the presence of endometrial tissue outside the uterine cavity. The most common affected areas are peritoneal surfaces, ovaries and uterine ligaments. Endometriosis rarely affect the vulva, vagina, rectovaginal septum or perineal region, this happen secondary to obstetric or surgical trauma.

Keywords: *Endometriosis; Episiotomy Scar; Perineal Scar; MRI; Anal Sphincter*

Background

Perineal scar endometriosis is a rare benign, chronic and painful condition which should be suspected in a woman complaining of perineal or vulvar pain during her menstrual cycle with history of episiotomy. An early diagnosis is very important as a delayed diagnosis results in progression of the disease and causing damage to adjacent structures, especially the anal sphincter and rectum. MRI plays an important role in the diagnosis of endometriosis as it provides high spatial resolution with good tissue characterization [1].

Case Report

A 34 years old para 1 with history of normal vaginal delivery and episiotomy 14 years ago presented multiple times at the emergency department with perineal and vaginal pain and bleeding that interfered with her daily activity. On examination, there was a fibrosed episiotomy scar and patient was discharged on analgesics and referred to a gynecologist. Patient was treated for scar fibrosis and perianal abscess with no relief.

In the most recent visit there was a perineal hard swelling at the episiotomy scar and history of swelling of vulva with menstruation. Patient had undergone treatment for pulmonary tuberculosis (TB) two years ago so a differential of TB related mass, pelvic endometriosis and fibrosed Bartholin abscess were suggested by the gynecologists and MRI was requested.

MRI confirmed right perineal and lower vaginal endometriosis with slight tethering of the adjacent sphincter complex but no involvement of the internal or external anal sphincter. MRI pelvis T2 Weighted Images show extensive speculated fibrotic tissue in the fat planes of the right ischio-anal fossa along the lateral aspect of the external anal sphincter (12-7 o'clock positions), presumptively related to the previous episiotomy scar as reviewed in the clinical data (Figure 1A-1C). T1 and T2 Weighted Images show multiloculated cysts, demonstrating T2WI shading and bright T1WI signal intensity, highly concerning of ectopic endometrial glands and endometriotic cysts. Extension of the ectopic endometriotic tissue is noted along the inter-sphincteric space at 10 through 12 o'clock position. The approximate size of the perineal endometriotic mass is 5.3 cm x 3 cm in AP and transverse dimensions respectively (Figure 2A-2C). T1 and T2 Weighted Image show hyperintense nodules at the right lateral aspect of the posterior lower vaginal wall, denoting the lower vagina endometriosis (Figure 3A and 3B). Post IV Contrast images (without and with subtraction) show enhancement of the fibrotic changes and cysts wall (Figure 4A-4D).

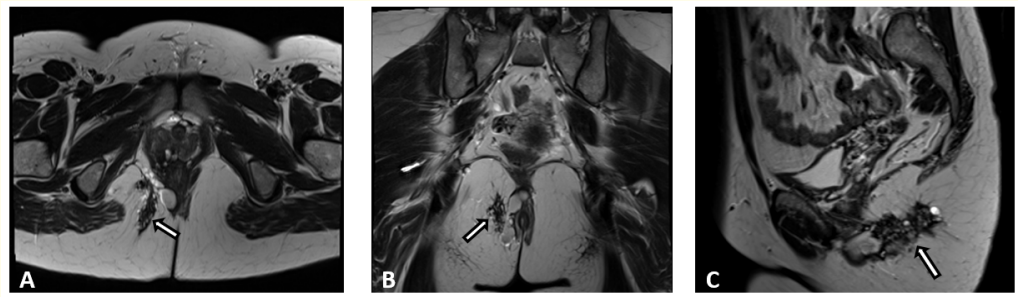

Figure 1: *MRI Pelvis:T2 Weighted Images (A) Axial, (B) Coronal and (C) Sagittal: Shows extensive speculated fibrotic tissue in the fat planes of the right ischioanal fossa along the lateral aspect of the external anal sphincter (12-7 o'clock positions) (arrows), presumptively related to the previous episiotomy scar as reviewed in the clinical data.*

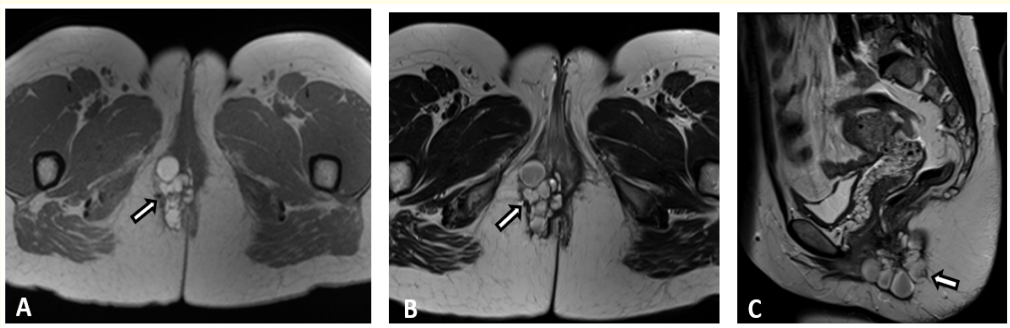

Figure 2: *MRI Pelvis: Axial T1 Weighted Image (A), Axial T2 Weighted Image (B) and Sagittal T2 Weighted Image(C) : Show multiloculated cysts, demonstrating T2WI shading and bright T1WI signal intensity, highly concerning of ectopic endometrial glands and endometriotic cysts. Extension of the ectopic endometriotic tissue is noted along the inter-sphincteric space at 10 through 12 o'clock position (arrows). The approximate size of the perineal endometriotic mass is 5.3 cm x 3 cm in AP and transverse dimensions respectively.*

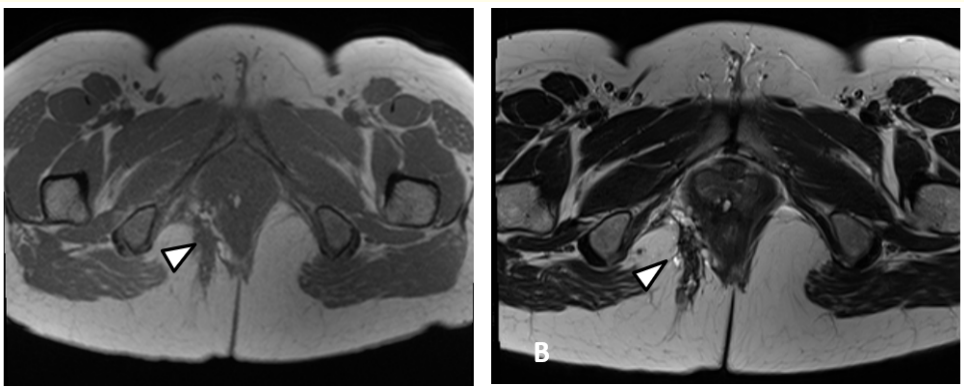

Figure 3: *MRI Pelvis: Axial T1 Weighted Image (A) and Axial T2 Weighted Image (B): Show hyperintense nodules at the right lateral aspect of the posterior lower vaginal wall (arrow heads), denoting the lower vagina endometriosis.*

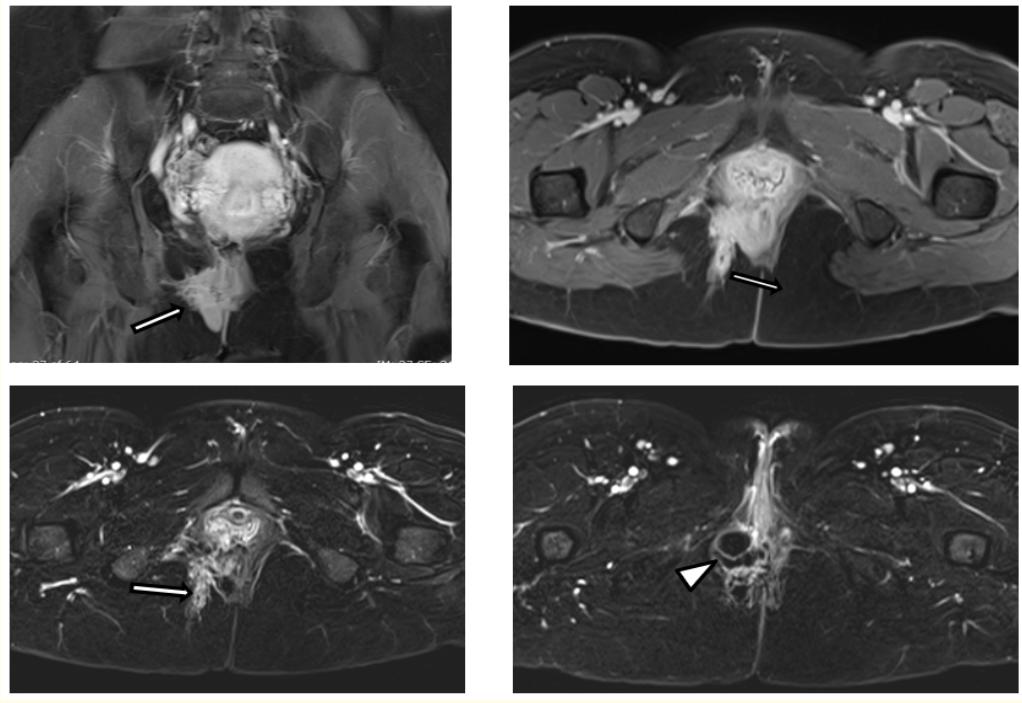

Figure 4: *MRI Pelvis: Post IV Contrast, Sagittal (A), Axial without subtraction (B) and with subtraction (C,D): Show enhancement of the fibrotic changes (arrows) and cysts wall (arrow head).*

After the MRI, excision and biopsy of the perineal mass without compromising internal and external anal sphincter to be controlled and the histopathology results confirmed that endometrial cells are seen in the biopsy and it was negative for malignancy. The patient went to sigmoidoscopy and the result came out normal. After that the patient received Hormonal treatment (Zoladex 10.8 mg Injection). Clinically the patient improved and the mass markedly reduced in size and in the next visit there was no definite palpable mass and she is doing regular gynecological follow-up.

Discussion

The definition of endometriosis is the presence of functioning estrogen dependent endometrial tissues outside the uterine cavity. It is benign, chronic and painful condition. Endometriosis is considered one of the most common diseases that affect women during the reproductive age, prevalence (7 - 10%) of general population. Endometriosis is generally divided into pelvic and extra pelvic sites. The pelvic endometriosis is the most common site, affect mainly ovaries (30%) which is called endometrioma, uterosacral ligament and fallopian tubes are also affected [1].

Extra-pelvic locations of endometriosis are rare, it affects about (12%) of all cases, it can affect the upper abdomen, diaphragm, abdominal wall. Incisional endometriosis or scar endometriosis is defined as endometriosis occurring in a previous surgical scar. The main cause of scar endometriosis is either gynecologic operation with an abdominal area after hysterectomy or obstetric cause as cesarean section, or after vaginal delivery with perineum episiotomy. It has been reported also after laparoscopic trocar tracts, amniocentesis needle

tracts, and excision sites of Bartholin gland (within the vulva). The scar endometriosis is an extremely rare entity, affect about 0.03% - 0.15% of all cases of endometriosis [1].

The perineal scar endometriosis has typical characteristic criteria, if these criteria are found in the patient, perineal endometriosis has 100% predictive value. These criteria are history of perineal episiotomy during vaginal delivery, painful mass or nodule at the perineum or cyclic perineal pain [2].

The differential diagnosis of scar or incisional endometriosis are hypertrophic scar tissue, abscess, granulomatous tissue, neoplasm, hernia, desmoid tumor, hematoma, neuroma or metastatic carcinoma [3].

The diagnosis or prediction of the extension of deep pelvic endometriosis usually cannot be assessed by physical examination and laparoscopy. Transvaginal ultrasound is cheap and easy to perform so it is the first and the most accessible imaging modality done in female patients in the reproductive age with chronic cyclic pelvic pain. Ultrasound has a good value in the diagnosis and treatment of endometriomas as well as differentiating endometriomas from other ovarian cysts. However, Transvaginal ultrasound has limited role in detection of superficial and deep pelvic endometriotic lesions [3].

Rectal endoscopic sonography with high-frequency probes (7.5 - 12 MHz) has been recommended for the detection of rectal, recto-vaginal, uterosacral or recto sigmoid endometriosis, but it has poor penetration. Computed tomography (CT) usually is not very helpful in the diagnosis of endometriosis [4].

Magnetic resonance imaging (MRI) is the most common modality used in the diagnosis of endometriosis as it is a noninvasive technique with high spatial resolution that gives good tissue characterization and multiplanar evaluation. MRI plays an important role in the diagnosis of endometriomas, superficial peritoneal implants, extra peritoneal implants, uterosacral ligaments lesions, rectovaginal space implants, adhesions, as well as solid endometriotic nodules [5].

The MRI standard protocol which is mostly used is, T2-weighted fast spin echo sequence (sagittal, coronal and axial planes), T1-weighted fast spin echo sequence (axial plane), and T1-weighted fast spin echo fat saturation sequence (axial and sagittal planes). The T1-weighted fat saturated technique plays an important role in the small lesions (less than 1 cm) and helps in differentiation between hemorrhagic and lipid component of the lesions, so it plays role in differentiation of endometriomas from dermoid cysts and the increased detection of small implants [5]. The injection of (Gadolinium) as contrast medium doesn't have any advantage over the non-contrast MRI except if malignant lesions are suspected [6].

MRI findings of endometrioma are, ovarian cystic mass with high signal intensity on T1-weighted images and low signal intensity on T2-weighted images. The cause of this is repeated hemorrhage which result in high protein and iron concentration which is called "shading phenomena". MRI findings of endometriosis either pelvic or extra pelvic depend on the contents of these implants which is mainly include degraded blood products and protein, and the signal intensity varies according to the stage of the hemorrhage. The acute hemorrhage is of low signal intensity (dark) on the T1WI and T2WI.While the lesions containing chronic degraded blood products like methemoglobin gives high signal intensity (bright) on T1WI and low signal intensity (dark) on T2 weighted images [6].

MRI findings of scar endometriosis commonly appears as a high signal intensity heterogeneous nodule associated with surgical scarring on T1- weighted images (in both with and without fat saturation) and T2-weighted images, due to the subacute hemorrhage within the endometriotic crypts, although this finding may vary. In post gadolinium contrast injection T1-weighted fat-saturated images, at least part of the lesion shows strong enhancement on and in some occasions a feeding vessel is seen [7].

Early diagnosis of endometriosis is important in preserving the female fertility, relieving pain and prevention of the complications as the delay in diagnosis results in more extension of the disease causing increasing damage to the surrounding and adjacent structures such as anal sphincter and rectum [2].

The treatment of choice for the endometriosis is wide surgical excision to the lesion and the healthy margins as well to prevent the recurrence of the lesion. As the endometriosis can undergo malignant transformation theoretically and so histological evaluation is a must in all the cases [3].

Conclusion

Perineal scar endometriosis is a rare condition which should be suspected whenever a female with previous history of episiotomy complaining of periodic perineal pain during her menstrual cycle. MRI is the most common modality used in its diagnosis. The treatment of choice for the endometriosis is surgical excision and the patient should be kept on follow-up and warned about the chance recurrence and the remote possibility of a malignant transformation.

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