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Original Research

Assessment of radiographic findings in patients with deep pelvic endometriosis

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***ABSTRACT*:**

Background: Endometriosis is one of the common problems prevalent among significant proportion of world's population. The present study was conducted with aim of assessing the radiographic findings in patients with deep pelvic endometriosis. **Materials & Methods:** 10 patients with ultrasonographic findings suggestive of deep pelvic endometrioses were analysed. A perform was made and complete clinical profile of all the patients was recorded. All the patients underwent Magnetic resonance imaging. All the results were recorded and analysed by employing SPSS software version 12.0. **Results:** Among the 10 patients with deep pelvic endometriosis, mean age of the patients was 38.1 years. USG examination showed presence of well defined hypoechoic nodule homogenous irregular shaped in all the 10 patients. However; on MRI examination, T1W Hyperintensity with persistence on T1W fat suppressed sequence and T2 hypointensity was seen in 100 percent of the patients each. MRI findings were suggestive of deep pelvic endometriosis in 90 percent of the patients whereas 10 percent of the patients showed presence of non-endometriosis lesions.

Conclusion: USG can be used for initial screening of pelvic endometriosis.

Key words: Endometriosis, Ultrasonography

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INTRODUCTION

Endometriosis is one of the common problems prevalent among significant proportion of world's population. Up to 20% of women with endometriosis have concurrent chronic pain conditions, including irritable bowel syndrome, interstitial cystitis/painful bladder syndrome, fibromyalgia, and migraines. Prior to attributing pelvic pain to endometriosis, bowel, bladder, psychiatric, and musculoskeletal etiologies should be ruled out. Given that endometriosis may be a diagnosis of exclusion, the diagnosis of endometriosis in a woman with pelvic pain is often delayed and stretches over several years.[1- 3]

The three primary types of endometriosis are superficial peritoneal lesions, ovarian endometriomas, and deep infiltrating endometriosis (DIE). While all three types of lesions are associated with chronic pelvic pain, the location and extent of lesions correlate poorly with the location and severity of experienced pain. However, some lesion characteristics described at the end of operative laparoscopy may be predictive of subsequent fertility. Superficial lesions of endometriosis are typically located on the pelvic organs or pelvic peritoneum. The classic bluish or blue-black "powder-burn" lesion resembles the endometrium and may be associated with hemosiderin deposits. Non-classic lesions include clear and red "flame-like" lesions or white lesions. The metabolic activity and symptoms associated with lesion types are hypothesized to vary, but this has not been well studied.[4- 6] Hence; the present study was conducted with aim of assessing the radiographic findings in patients with deep pelvic endometriosis.

MATERIALS & METHODS

The present research was commenced in the department of radio-diagnosis of the medical institute and it included assessment of radiographic findings in patients with deep pelvic endometriosis. Analysis of patients with clinical diagnosis of endometriosis was

enrolled. 10 patients with ultrasonographic findings suggestive of deep pelvic endometrioses were analysed. A perform was made and complete clinical profile of all the patients was recorded. All the patients underwent Magnetic resonance imaging. Exclusion criteria for present study included:

- Patients with history of any other systemic illness,
- Patients with any known drug allergy
- Patients with history of any malignancy

All the results were recorded and analysed by employing SPSS software version 12.0.

RESULTS

Among the 10 patients with deep pelvic endometriosis, mean age of the patients was 38.1 years. USG examination showed presence of well defined hypoechoic nodule homogenous irregular shaped in all the 10 patients. However; on MRI examination, T1W Hyperintensity with persistence on T1W fat suppressed sequence and T2 hypointensity was seen in 100 percent of the patients each. They also observed STIR signal suppression and DWI restriction diffuses with low ADC values in 50 percent of the patients each. MRI findings were suggestive of deep pelvic endometriosis in 90 percent of the patients whereas 10 percent of the patients showed presence of non-endometriosis lesions.

Table 1: Comparison of USG and MRI findings

Site	USG findings	MRI
Endometriosis lesions	10	9
Non- Endometriosis lesions	0	1
Total	10	10

DISCUSSION

Endometriosis is a common gynaecological condition, defined as the presence of endometrial-like tissue outside the uterus, which impairs quality of life. In more severe cases it forms cysts in the ovaries and deeply infiltrates pelvic organs. In women with pelvic endometriosis ultrasound examination has been shown to be able to diagnose ovarian endometriomas with a high degree of accuracy, but other endometriotic lesions were considered to be undetectable.[6- 9] Hence; the present study was conducted with aim of assessing the radiographic findings in patients with deep pelvic endometriosis.

In the present study, among the 10 patients with deep pelvic endometriosis, mean age of the patients was 38.1 years. USG examination showed presence of well defined hypoechoic nodule homogenous irregular shaped in all the 10 patients. However; on MRI examination, T1W Hyperintensity with persistence on T1W fat suppressed sequence and T2 hypointensity was seen in 100 percent of the patients each. They also observed STIR signal suppression and DWI restriction diffuses with low ADC values in 50 percent of the patients each.

Aleem F et al characterized the appearance of the vascular pattern of endometriomas in terms of color Doppler and to verify the role of Doppler flow indices in differentiating endometriomas from other pelvic masses. Twenty patients with suspected endometriosis were referred for evaluation and surgical management of adnexal masses and/or infertility problems. Before surgery, transvaginal sonography was performed using an Ultramark 9 (ATL) Ultrasound system. The color Doppler was used for evaluation of the vascular color distribution. Flow parameters (resistance index (RI) and pulsatility index (PI) were obtained using pulsed Doppler. A total of 24 masses were identified in the 20 patients studied. Sixteen masses proved to be endometriomas, with a mean size of 3.5 +/- 0.4 cm. Of confirmed endometriomas, 81% had a regular internal surface and 63% showed the characteristic homogeneous low-level echoes filling the cyst. Eleven of 16 (69%) endometriomas showed flow by color Doppler. The flow was characteristically limited, with few spots of vascular color seen in each mass. Cases that showed dense vascularity with color Doppler proved not to be endometriomas. The mean +/- SE of the RI and PI for the endometriomas were 0.59 +/- 0.02 and 0.95 +/- 0.1, respectively. All endometriomas showed an RI of > 0.5 with a range of 0.5-0.74, while the PI was 0.59-1.59. No significant differences between flow indices for endometriomas and other benign cystic lesions were noted. Scattered vascularity, one feature of adnexal endometriomas, may help to differentiate them from other lesions of dense vascular distribution, such as corpora lutea or ovarian neoplasms.[9]

In the present study, MRI findings were suggestive of deep pelvic endometriosis in 90 percent of the patients whereas 10 percent of the patients showed presence of non-endometriosis lesions. Ectopic endometrial tissue localized in the rectus abdominis tissue is a very rare occurrence. Previously there have been only 20 reported cases in literature. The first one of these cases was presented by Amato et al., in 1984. Previous authors have reviewed the previously reported cases extensively; their clinico-pathological characteristics, summarized, were: endometriosis with rectus abdominis placement usually is seen in premenopausal women, aged 27-42y, and history of previous surgery (77%), similarly to this patient. The average size of the endometriomas were 4X4 cm in diameter. This case had a much smaller dimension. The imaging studies' measurements were 2 cm at the greatest width. While CT scan has most commonly been used, in this case imaging diagnosis preferred to use ultrasound followed by an MRI.[9-12] Although advanced imaging techniques such as magnetic

resonance imaging (MRI) or multislice computed tomography (CT) have been shown to be valuable tools for non-invasive diagnosis of DIE, these modalities are equally time-consuming and expensive and hence of limited use as easy-at hand primary assessment tools in the outpatient clinical setting. These issues are partly overcome by the use of TVS. In a preliminary paper, previous authors have suggested the potential value of TVS for the diagnosis of DIE and have confirmed in a larger study that TVS accurately diagnosed DIE of the rectum. Similarly, another group of authors compared the use of bimanual examination, TVS and MRI for detection of DIE of the rectosigmoid and/or 'retrocervical sites' as defined by the author in 104 patients, demonstrating higher sensitivity, specificity, NPV and PPV for TVS in cases of rectal DIE when compared with MRI and clinical examination.[13- 15]

CONCLUSION

From the above results, the authors conclude that USG can be used for initial screening of pelvic endometriosis.

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