

ENDOMETRIOSIS AND ADENOMYOSIS : AN ULTRASONIC APPRAISAL

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SUMMARY

Pelvic ultrasounds of 14 surgical proved cases of endometriosis were reviewed. Nine cases had endometriosis external and 5 the interna type-adenomyosis. Out of 9 cases of external endometriosis 4 had unilateral adnexal mass lesions : one cystic, 2 solid and 1 polycystic type. Two cases had bilateral mixed echogenic adnexal masses whereas 2 had thickened adnexae, one patient had unilateral enlarged ovary. All the 5 cases of adenomyosis were diagnosed preoperatively on ultrasound. As regards the external type, although US was sensitive to detect abnormality in all the cases, specific diagnosis of endometriosis was made in 4 (44%) of the 9 cases. No association was found between endometriosis externa and adenomosis.

INTRODUCTION

Endometriosis results from the presence of actively functioning endometrial tissue in aberrant location (Coleman et al., 1979). In the externa type ovaries are the most common site of involvement followed by broad ligament, cul-de-sac and rectosigmoid colon (Sandler et al., 1978) whereas there is exaggerated growth of endometrium with invasion of underlying myometrium in interna type or adenomyosis (Bohlman et al 1987). It is usually a progressive disease affecting women during reproduc-

tive years and may result in complete loss of child bearing potential (Coleman et al., 1979), the disease being the sole factor in 15% infertility cases. Early diagnosis is crucial for management and exploratory laparotomy is often performed. However, gray scale image processing has resulted in enhancement of soft tissue details in ultrasound examination of the pelvis.

MATERIAL AND METHODS

Out of the gynaecological ultrasounds done during 1987-1991, we came across pelvic ultrasounds of 14 surgically proved cases of endometriosis (9 cases of endometriosis externa

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and 5 of endometriosis interna). These were reviewed with the objective of finding ultrasonic character of endometriosis as well as to see if there was any association between endometriosis externa and adenomyosis.

OBSERVATIONS

Age of the patients ranged between 28-55 years with mean age being 34 years. Patients having Endometriosis externa were much younger - 27-45 years (Mean age 32 years) as compared to adenomyosis - 35-55 years (Mean age 43 years).

Out of the 14 patients one patient was unmarried.

Clinical Presentation

Five (35%) patients presented with infertility, 4(28%) with menorrhagia, 1 with dysmenorrhoea, 1 with postmenopausal bleeding and one with dysfunctional uterine bleeding. Two patients presented with pain in the lower abdomen with a lump additionally in one case.

Out of the five patients presenting with infertility, 2 had normal menstrual cycles, 2 had oligomenorrhoea whereas one patient had secondary amenorrhoea.

Out of the 9 cases of endometriosis externa, mass lesions were palpable clinically in 3 (33%) cases.

Ultrasonic Findings

Out of the 9 cases of endometriosis externa, 4 patients had well defined unilateral adnexal masses of size 4 - 2 cms in size. Three masses were on the right side whereas in the fourth case the side could not be decided upon because of the big size of the mass.

Ultrasonic character of 1 mass was transonic spherical with thick walls and peripheral echoes suggestive of cystic type of endometriosis. Two masses were rounded having well defined margins and low level echoes uniformly distributed throughout with good through trans-

mission. The picture was consistent with solid endometriosis (Fig. 1).

The big, 20 cms sized, mass in one case was of multiloculated transonic nature and the ultrasonic diagnosis of pseudomucinous cystadenoma was suggested (Fig. 2).

Bilateral mixed echogenic adnexal masses were seen in 2 cases out of which one was labelled as T.O. mass? inflammatory whereas in the other case, taking the history into consideration, the diagnosis of endometriosis was suggested.



Fig. 1 : Rounded ovarian mass showing uniformly distributed low level echoes
- Solid Endometriosis.



Fig. 2 : Multiloculated transonic mass
- Polycystic type Endometriosis.

Thickened adnexae consistent with acute pelvic inflammatory disease (PID) were reported in 2 cases with adhesions giving bizarre appearance in one of these. In one case unilateral enlarged ovary was reported but no diagnosis could be given.

In all the five cases of adenomyosis the uterus was enlarged and was showing sonolucent small spaces within it and thickened posterior

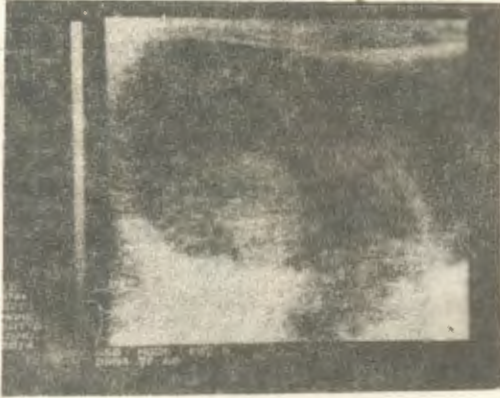


Fig. 3 : Magnified view of uterus showing sonolucent small spaces within it
- Adenomyosis.

wall in one case (Fig. 3).

Thus out of 14 cases preoperative ultrasound diagnosis of endometriosis / adenomyosis was suggested in 9 (65%) cases, T.O. mass in one, pseudomucinous cystadenoma in one and nonspecific enlarged ovary in one case. Acute Pelvic inflammatory disease was diagnosed in 2 cases.

On surgical correlation ultrasonic diagnosis of Endometriosis/Adenomyosis in 9 cases was confirmed. In addition the remaining 5 cases which were labelled as T. O. mass pseudomucinous cystadenoma, nonspecific enlarged ovary and acute PID were found to have endometriosis.

DISCUSSION

When external endometriosis involves the

ovary, fallopian tubes and pelvic peritoneum, gray scale ultrasound may suggest the correct diagnosis when combined with characteristic clinical history or physical examination. Sandler et al. (1978) and Coleman et al. (1979) described three ultrasonic patterns of endometriosis: cystic, solid and mixed. Walsh et al (1979) however reported four US patterns the fourth being polycystic. Taylor (1985) documented irregular blood lakes throughout the pelvis. Birnholz (1983) however said that small serosal implants may only be visualised when fluid is present.

Walsh et al. (1979) also documented association of adenomyosis in 9 out of 25 cases of endometriosis. In one of our cases such association was found. All the women having adenomyosis were older compared to other group and were parous having three or more children. Our findings in this regard concided with Benson et al. (1958) who reported adenomyosis in older women who had more children.

The differential diagnoses of external endometriosis are ovarian tumour/cyst, T. O. abscesses and ectopic pregnancy. US pattern may be characteristic in some entities however there may be wide overlap (Cassoff et al., 1979). Cystic endometriosis may be confused with simple ovarian cyst and Tubo ovarian (T.O.) abscesses. However, simple cysts have thin sharp margins whereas cystic endometriomas have thick shaggy walls with peripheral echoes.

T.O. abscesses can also be thick walled but the clinical setting is often the differentiating factor. There is frequently moderate to severe tenderness on bimanual examination in patients with elevated sedimentation rate, temperature and white cell count. However, similar US findings in relatively young patients, nulliparous or of low parity with pelvic pain without laboratory data suggesting infection suggest Endometriosis (Coleman et al., 1979).

Solid pattern of endometriosis may be due

to organised blood with fibrin deposition (Walsh, 1979). Although difficult to distinguish from solid ovarian tumours, these endometriomas have uniform homogenous, low level echopattern with good through transmission; whereas ovarian neoplasms usually have inhomogenous highly echogenic and sound attenuating pattern mixed with cystic elements (Walsh, 1979).

The differentiating feature in ectopic pregnancy is clinical history, uterine decidual reaction and a positive pregnancy test.

The multiloculated unilateral ovarian mass was wrongly diagnosed on US as pseudomucinous cystadenoma in our study; on surgery it came out to be endometriosis. Actually it might have been polycystic type of endometriosis as reported by Walsh et al. (1979).

Specificity of ultrasound for diagnosing

adenomyosis was 100% in our study; for external endometriosis it was 44% (4/9 cases) whereas Friedman et al. (1985) reported it to be 10.8% only.

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