

Transvaginal ultrasonographic diagnosis of adenomyosis in female patients suffering from uterine fibromatosis

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Summary: Adenomyosis is an underestimated pathology frequently responsible of unknown origin pelvic pain and uterine enlargement. It is hyperestrogenic condition with poor specific symptomatology and preoperative diagnostic tools are very few. The most important of them, ultrasound, has improved its diagnostic capacity with the introduction of transvaginal way of examination. However, for the ultrasound resemblance, the common etiopathogenetic origin and the symptomatologic likeness between adenomyosis and uterine leiomyomatosis, a problem still open is the differential diagnosis between these two pathologies especially when both are present in the same subject. In our study where the preoperative ultrasound was followed by surgical finding, we try to give some ultrasonographical guidelines to discern among these two pathologic conditions.

Key words: Adenomyosis; Transvaginal ultrasound; Uterine leiomyomatosis.

INTRODUCTION

Adenomyosis (or inner endometriosis) is characterized by the heterotopic endometrial tissue implant in the myometrial thickness (¹).

Such a pathology is often responsible uterine enlargement and hyperestrogenism is its predisposing factor as it is stimulated by hyperestrogenic physiologic conditions (pregnancy, premenopausal age,

substitutive estrogenic steroid treatment), and it is depressed until atrophy in case of estrogenic depression (surgical castration, menopause, ovarosuppressive treatment) (^{2,3}).

Women in the reproductive age are mainly affected, especially if aged between 40 and 50 years (³). Its frequency ranges between 5% and 70% on an average of 30% and often is associated to uterine fibromatosis and endometrial hyperplasia (^{2,3,4,5,6}). Its symptomatology, scantily specific, is constituted by dysmenorrhea, pelvic pain and menorrhagia (⁷). Presurgical diagnosis of such a pathology is less frequent than the postsurgical, ranging between 2% and 26% as concerns the presurgical diagnosis and between 8% and

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31% as concerns the postsurgical one (^{4, 5, 7, 8}). While the transabdominal ultrasound has obtained a poor diagnostic reliability as concerns adenomyosis and its differentiation of fibromatosis, the introduction of the transvaginal ultrasound has remarkably improved the possibilities (¹⁰).

MATERIALS AND METHODS

Five female patients undergoing our observation were affected by dysmenorrhea, menstruation prolongation, abdominal swelling and their previous ultrasound revealed a uterine enlargement and irregularity of profile. All the patients were subjected to a transvaginal and transabdominal ultrasonography with an Aloka SSD 2000 color doppler ultrasound with 3.5 Mhz convex and 6.5 Mhz microconvex probes by oblique, transversal parasagittal and longitudinal scanning. Ultrasound was completed by the transvaginal doppler probing. Each patient underwent a laparohysterectomy and an histologic examination was carried out on the removed surgical specimen. The mean age of the patients was 37.5 years (30-42 years range) and all the patients were multiparous.

RESULTS

All the five patients presented at the same fibromatosis and/or uterine fibroma and adenomyosis. The adenomyosis diagnosis was set according the following ultrasonographic criteria:

- 1) Single or multiple focal non-homogeneity ("beehive aspect"), with indistinct margins, hypoanechoic;
- 2) Irregular peripheral vascularization at a "low flow" impedance;
- 3) High representation at the color doppler.

Four patients out of five were previously subjected to an ultrasound examination elsewhere, but the results did not show the presence of adenomyosis and intramyometrial non-homogeneities were classified as fibromatosis zones in colliquative evolution. The histologic diagnosis on the surgical specimen confirmed the

contemporary presence of adenomyosis and uterine fibromatosis for all the five patients.

CONCLUSIONS

The introduction of ultrasound in the routine clinic practice has made possible considerable improvement in the early diagnosis of a great number of gynecologic benign pathologies (^{10, 11}). However, in some cases the traditional ultrasonography could not give the exact interpretation of any common clinic situations (⁹). Often the adenomyosis, less frequent pathology of fibromatosis, has not been identified by the traditional transabdominal ultrasonography, with the result of an unexpected histologic report of the surgical specimen (^{1, 11}). The introduction of the transvaginal technique and even more of the color doppler has made possible a considerable improvement of the pre-surgical ultrasonographic diagnostic (^{12, 13, 14}). The best definition of the anatomic aspects of the myometrium and the possibility of the exploration of the local flow have particularly made possible a differential diagnosis rather definite with some situations of uterine fibromatosis, similar conditions for transabdominal ultrasonographic characters, group of the interested age, but much more frequent for incidence (^{12, 13}). The estrogenic hormonal unbalance, predisposing common factor to both the pathologies, fibromatosis and adenomyosis, can be reflected in the contemporary presence of the two conditions, often making mistakes or showing diagnostic incompleteness (¹³). The finding of pelvic pain, especially in relation with the menstrual cycle in patients with clinic and/or ultrasound diagnosis of fibromatosis, should, for this reason, suggest the execution of a doppler flow transvaginal ultrasound examination on the arteries of the observed formation.

According to our experience, even if based on few cases, we have observed that

the previous transabdominal ultrasonographic could not show the presence of adenomyosis tissue in the context of a fibromatosis myometrium; the diagnosis was possible by using transvaginal ultrasound together with color doppler in the clinic presurgical study of the single case. When there is the presence of doubt report (two cases), the differential diagnosis was possible with the repetition of the transvaginal ultrasound during the menstrual phase, pointing out internal hypoechogenic areas with "beehive aspect" unlike the myoma during the colliquative phase, where hypoechogenicity seems widespread and generalized to all the formation. It will be considerably helpful to use the transvaginal doppler flow technique, performed preferably during the menstrual phase, completing the gynecologic ultrasonography in all the patients carriers of fibroma and particularly in those with pelvic pain.

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