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Role of Gross Examination of the specimen and ultrasound in Uterine Adenomyosis: case series with review of literature

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ABSTRACT

Background. In times, Adenomyosis cannot be diagnosed accurately and differentiated from leiomyoma before histological assessment in a hysterectomy specimen. It can be suspected by gross pictures.

Aim. We aim to provide an assistance to pathological examination, proposing a role of ultrasound and gross examination of the specimen to be helpful.

Case presentation. We presented different cases with adenomyosis with different gross pathologies as trabeculation on external surface, small myometrial cysts, polypoidal adenomyosis and diffuse adenomyosis.

Conclusions. Adenomyosis cannot be diagnosed accurately before the pathological assessment of the uterus. It could be suspected from gross pathologies and ultrasound findings.

SOMMARIO

L'adenomiosi non può essere diagnosticata accuratamente e differenziata dal leiomioma prima della valutazione istologica in un campione di isterectomia. può essere sospettato da immagini grossolane.

Scopo. Ci proponiamo di fornire assistenza per l'esame patologico, proponendo alcune immagini grossolane ed ecografiche come supporto alla diagnosi istologica finale.

Presentazione del caso. Abbiamo presentato diversi casi di adenomiosi con differenti patologie lorde come trabecolazione sulla superficie esterna, piccole cisti miometriali, adenomiosi polipodiale e adenomiosi diffusa. La presentazione presenta diversi quadri grossolani di adenomiosi che possono sospettare l'adenomiosi.

Conclusioni. L'adenomiosi non può essere diagnosticata accuratamente e differenziata dal leiomioma prima della valutazione patologica dell'utero. Potrebbe essere sospettato da patologie grossolane e risultati ecografici.

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BACKGROUND

Adenomyosis is the presence of endometrial glands and stroma in the myometrium (1). When adenomyosis is focal, it is similar to a leiomyoma in being an intramural, space-occupying mass. it differs from leiomyoma in which the mass cannot be shelled out easily (2). Adenomyosis cannot be diagnosed accurately nor differentiated from leiomyoma before the pathological assessment of the uterus, at times it could be suspected from gross pathological that are presented here.

We aim to provide an assistance during surgery and before pathological examination as a guide and a preliminary diagnosis, proposing some gross pictures and ultrasound ones to be helpful as a support to the final histological diagnosis.

All cases did not have chronic illness. BMI of patients ranges between 25-30. The Second and third patient had history of one cesarean section while other patients surgical history is unremarkable. The complaints were not relieved by medical treatment combined of analgesics and hormonal treatment inform of pills and progesterone therapy. Patients refused mirena and continuing medication as they were putting on weight, they missed taking the pills and they developed unexpected bleeding. They were demanding a permanent cure - Patients underwent abdominal hysterectomy with bilateral salpingectomy. On pathologic assessment, the abnormality in uterus was adenomyosis. Microscopically, multiple irregular islands

of endometrial glands and stroma embedded in the myometrium and the entire uterine wall was identified. The myometrium surrounding were hypertrophic. The glands in the endometrial islands were of basalis-type endometrium in contrast to the early secretory glands in the endometrium (**table I**) (**figure 1-7**).

DISCUSSION

Adenomyosis causes gross abnormality in advanced cases and the diagnosis is based upon microscopic findings. In Lev Gur's series (3), adenomyosis was present alone in the uteri smaller than 280 g. Reiter et al. reported six cases with a uterine weight of 320 g (4). A clinical diagnosis of adenomyosis can be confirmed by transvaginal ultrasonography and MRI, but specificity of these methods decreases when the uterine volume exceeds 400 ml (5,6).

The MUSA (Morphological Uterus Sonographic Assessment) statement is a consensus statement on terms, definitions and measurements used to describe the sonographic features of the myometrium using gray-scale sonography, Doppler and three-dimensional ultrasound imaging. This Morphological Uterus Sonographic Assessment consensus is based on the opinion of clinicians with expertise including members from the IOTA (International Ovarian Tumor Analysis) and IETA groups (24). it describes criteria for diagnosing ad-

Table I. Case Presentation.

Case	Age	Complain	Gravidity, parity	Findings	Operative finding	Figure
1	40	AUB inform of menorrhagia	G3P3	Diffuse and Asymmetrical Thickening of uterine wall, enlarged uterus in size and volume, endometrial thickness is 8mm with ill defined endometrial myometrial junction	Diffuse adenmyosis With trabeculations and asymmetry between walls anterior and posterior	1, 7
2	45	AUB inform of menorrhagia	G1P1	Myometrial cyst, striation shadowing, heterogenous echogenicity, adenomyoma	Subendometrial Myometrial cyst	2, 3
3	47	Chronic PELVIC PAIN and low back pain	G2P1+1	thickened myometrium, polypi, myometrial cyst, asymmetrical diffuse wall thickening, thick endometrium and ill defined	Trabeculation on external surface of uterus, myometrial cyst bulging in cavity and multiple endometrial polypi	4, 5
4	42	AUB inform of menorrhagia	G3P2+1	Diffuse asymmetrical myometrial thickening, endometrial polyp, myometrial cyst and thick illdefined endometrium, echogenic spots	Trabeculations on the external surface, hickened myometrium with polypoidal adenomyosis and small myometrial cysts	6

Figure 1. Diffuse adenomyosis of the uterus (thickened walls with asymmetry and trabeculation all through).

Figure 2. Myometrial cyst on ultrasound, an active recent lesion with echoic wall (A), Ultrasound with illdefined endometrium with shadowing (B), Mottled heterogenous echogenicity of myometrium with subendometrial buds and lines (C).

Figure 3. Ultrasound with adenomyoma in wall, (A) which is echogenic mass, ill defined considered as old lesion with fibrosis, shadowing fan shaped with intralesional vascularity, illdefined endometrium and junctional zone.

Figure 4. Subendometrial adenomyotic cyst with multiple adenomyotic polypi.

Figure 5. Echogenic spots in the myometrium associated with adenomyosis of old fibrosis hemorrhagic lesions and hyperechoic islands.

Figure 6. Enlarged uterus with small myometrial cyst with (B,C), thick wall of hyper-trophied myometrium and polypodal adenomyosis (B).

Figure 7. Trabeculation over the external surface of uterus.

enomyosis and fibroids. Adenomyosis assessment on ultrasound include the following criteria for diagnosis as globally enlarged uterus, ill-defined lesion as in diffuse adenomyosis (adenomyoma may be well-defined) and Myometrial anteroposterior asymmetry. The mass lesion is characterized by ill-defined, irregular mass with no rim, no edge shadows but fan-shaped shadowing and mixed echogenicity. Myometrial cysts, hyperechogenic islands, subendometrial lines and buds, translesional flow, and thickened irregular or ill-defined interrupted JZ can be detected as shown on previous photos (7).

Polypoid adenomyoma, known as an adenomyomatous polyp, is an endometrial polyp in which the stroma is predominantly composed of smooth muscle. they are accounting for only 1.3% of all endometrial polyps (8-10). These tumors are of mixed epithelial and mesenchymal origin with typical and atypical variants (11-13). Most studies have focused on the clinicopathologic features of atypical polypoid adenomyomas because they are confused with malignant tumors. the transvaginal sonographic appearance has been described as a polypoid, hypoechoic or hyperechoic submucosal mass in the endometrial cavity, a large solid mass with multiple cystic areas, a mass with large cysts, and a polyp with small cystic spaces (11-13). Nasu et al. (14). reported a case of polypoid adenomyoma as a large solid mass with multiple cystic areas, similar to submucous leiomyoma with cystic degeneration. Furuhashi et al. (15) described a case in which a hyperechoic pattern changed to a vesicular one, similar to trophoblastic disease. Color Doppler has been used in the diagnosis of endometrial abnormalities by identifying vessels in the lesions.

Cystic lesions of the uterus are rare and are considered to be benign (16). Adenomyotic cysts are observed in parous women, and in association with diffuse adenomyosis uteri (17) isolated adenomyotic cysts may be detected (18,19). Adenomyotic cysts are seen in older ages but they may

be in adolescents (20). Small adenomyotic cysts that do not exceed 5 mm in diameter are found in 24% of hysterectomy specimens (21) but larger adenomyotic cysts are rare. Repeated surgical intervention might be a risk factor for adenomyotic cysts (22). Pelvic pain, dysmenorrhea, menorrhagia and large uterus are the most common features of adenomyosis. Urine retention may be the symptom (23). Pain or severe dysmenorrhea may be the main symptom in adenomyotic cysts. The pain of the adenomyotic cyst may be due to the increase in size of the mass, stretching of the endometrial cavity and cystic bleeding. Magnetic resonance imaging is important for the diagnosis of cystic adenomyosis especially when other imaging modalities are nonspecific (24). Magnetic resonance imaging can differentiate multiple cysts within the uterine myometrium, but hysterosalpingography may be useful for the differential diagnosis when magnetic resonance cannot differentiate isolated adenomyotic cyst from cavitated noncommunicating rudimentary horn. Imaging techniques are important in differential diagnosis of adenomyotic cysts and help us to choose the appropriate intervention. In young patients hormonal therapy is the first choice and can be accomplished by combined oral contraceptives or progesterone laden IUD as mirena. In the presence of severe symptoms that do not respond to medical therapy, a surgical intervention can be planned for excision (24). In older patients with no desire to preserve their fertility, hysterectomy can be performed.

CONCLUSIONS

Adenomyosis cannot be diagnosed accurately nor be differentiated from leiomyoma before the pathological assessment of the uterus. it could be suspected from gross pathologies and ultrasound findings.

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