



ADENOMYOSIS –An update

Gynaecology

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ABSTRACT

Adenomyosis uteri is a very common clinical entity encountered daily, accounting for visits to gynaecology OPD all over the world. It is classically defined as presence of endometrial tissue (including glands) within the myometrium (endometriosis interna). In asymptomatic woman its exact prevalence is unaccounted for, but a significant proportion of the patients may have associated pathologies eg. Uterine leiomyomatosis, endometriosis (externa), endometrial hyperplasia and polyposis etc. Usually the diagnosis is made retrogradely on histopathological examination of the specimen of hysterectomy. This review aims at evaluating the role of the various imaging modalities eg. Pelvic ultrasonography and MRI in improving the accuracy of pre-operative diagnosis along with the various medical and surgical therapeutic options available.

KEYWORDS:

Adenomyosis -Ultrasonography

INTRODUCTION

Adenomyosis uteri (also called endometriosis interna), very commonly encountered gynaecological entity is defined the presence of endometrial tissue and glands deep within the myometrium and associated with myometrial hyperplasia and hypertrophy. It is generally accepted that Adenomyosis occurs when there occurs a disruption of the normal boundary between the normal layer of the endometrium and the myometrium which results in the endometrial glands to invade the myometrium leading to the formation of ectopic intramyometrial glands causing adjacent myometrial hyperplasia and hypertrophy. Adenomyosis uteri can occur in two forms-

- Diffuse Adenomyosis: where the islands of Adenomyosis may be found throughout the myometrium.
- Localised Adenomyosis: the Adenomyosis is found localised in focal areas in the form of adenomyomas.

EPIDEMIOLOGY OF ADENOMYOSIS

In asymptomatic women, the exact prevalence of Adenomyosis remains unclear. The reported prevalence in surgical series from different parts of the world varies widely because of the differences in diagnostic criteria (histopathological) used and also the number of tissue sections analyzed. The estimated prevalence histopathologically confirmed Adenomyosis uteri in surgical series ranges from 5-70%. A significant proportion of these patients may have other associated pathological conditions eg. Uterine leiomyomatosis (80%), endometriosis (externa) (6.5-24%), endometrial hyperplasia (3.5-13.5%), endometrial polyposis (2.5-5.5) (1,3,4). Adenomyosis uteri mostly affects multiparous women in the age group of 35-50 years.

PATHOGENESIS OF ADENOMYOSIS

Though the exact etiology and pathogenesis of Adenomyosis is still to be established, many theories exist regarding the same. One such theory is that Adenomyosis originates from the basalis of the endometrium which grows between the smooth muscle fibres in the myometrium due to the influence of some specific enzymes. This repeated process of regeneration and re-epithelization leads to a loss of the endometrial-myometrial interface and there occurs myometrial hypertrophy around the endometrial foci. The exact reason of this still remains unclear, however, it may involve the smooth muscle fibre bundles and also the body's response to control the invagination. Many other factors eg. Hormonal, genetic and immunological also contribute to the pathogenesis of adenomyosis. Another very important contributing factor in hyperestrogenism at the local site as in evidence by the growth and regression of adenomyosis in an estrogen dependent fashion due to the presence of estrogen receptors in adenomyosis tissues.

SYMPTOMATOLOGY OF ADENOMYOSIS

Many women may be asymptomatic and it may be an incidental finding on either clinical examination, imaging studies or in

histopathological reports from hysterectomy specimens. Symptomatic patients may present with menstrual complaints eg. Heavy menstrual bleeding (40-50%), intermenstrual bleeding (10-12%), dysmenorrhoea (30-35%), dyspareunia (10-15%), chronic pelvic pain (15-20%) or abdominal discomfort, mass or pressure effects (10-15%) (1,8). It has been observed that the frequency and severity of the symptoms can be correlated directly to the extent and the depth of the Adenomyosis. On physical examination, many patients exhibit a bulky, tender uterus (1,9).

EVALUATION OF A PATIENT OF ADENOMYOSIS

There is no single diagnostic test that is both sensitive and specific for Adenomyosis uteri, even though it is important to have one such for proper and accurate diagnosis of this condition which form the basis of further management.

PELVIC ULTRASONOGRAPHY: (USG)

Transvaginal USG (TVS) is considered superior to transabdominal sonography (TAS) in diagnosing the features of Adenomyosis. Many specific sonographic features including uterine uniform enlargement, asymmetric enlargement of the anterior or the posterior myometrial wall, lack of contour of the uterus abnormally or specific, focal mass effects, heterogeneous and poorly circumscribed areas within the myometrium, hyperechoic islands or nodules, finger like projections or linear striations, indistinct endometrial strip, anechoic lacunae or cyst of varying sizes- may be observed in various permutations and combinations. It has been reported from various studies that the accuracy of TVS ranges between 53=89% and 50-99% as per sensitivity and specificity. There have been many reports on the use of 3D TVS AND 3D- power Doppler in Adenomyosis to see the vessels distribution and branching and differences in perfusion patterns in the affected areas.

HYSTEROSALPINGOGRAPHY (HSG):

HSG has a very low sensitivity and specificity for diagnosing Adenomyosis uteri. Some features of this condition include multiple, small spicules extending from the myometrium and local accumulation of contrast medium in the myometrium giving a typical honeycomb appearance.

MAGNETIC RESONANCE IMAGING (MRI):

- Features of Adenomyosis on MRI include the following- a focal or diffuse thickened junctional zone due to uncoordinated proliferation of the inner myometrial cells resulting in junctional zonal hyperplasia.
- Areas of low signal intensities which represent the smooth muscle hyperplasia.
- Foci of increased high signal intensity in the junctional zone representing hypertrophic endometrial tissue. (11,12,13)

There have been many studies comparing MRI with TVS for

Adenomyosis – some reported almost equable sensitivity and specificity where as some studies reported MRI was a good compliment to USG. When USG is indefinite or difficult cases with the presence of other co-pathological conditions eg. Uterine leiomyomata and endometriosis.

TREATMENT MODALITIES AVAILABLE FOR ADENOMYOSIS

With the advancement in diagnostic modalities available, more and more cases of Adenomyosis are diagnosed now a days before surgery – which gives the patient to opt for medical therapy too. However, because of the diagnostic challenges associated with Adenomyosis, there is a lack of large, well diagnosed trials looking at the treatment of this condition itself. Though many non surgical treatment modalities are aimed at symptomatic relief, nevertheless, hysterectomy still remain the main treatment option for those patients who have completed their families with no further desires of future fertility. To discuss the two main treatment modalities available for Adenomyosis today.

1. Medical management:

- Non hormonal treatment: targeted at attaining symptomatic relief.

a. Non –steroidal anti-inflammatory drugs (NSIADS): Mefenamic acid (relieve dysmenorrhoea and heavy menstrual bleeding).

b. Antifibrinolytic agents: Tranexamic acid

2. Hormonal treatment: provide temporary relief of symptoms.

- Aimed at inhibiting gonadotrophin release from the pituitary.
- Inhibit the cyclical changes of the ovarian steroids.

a) Progestogen

b) Combined estrogen –progesterone oral contraceptive pills (OCPs).

c) LNG-IUS (levonorgestrel-releasing intrauterine system)

- Lessens menstrual blood loss
- Reduces the uterine size
- Improves dysmenorrhoea

d) GnRH –analogues

- Induce medical menopause.
- Cause atrophy of the adenomyotic nodules that results in reduction of uterine size and symptomatic relief.

e) Oral Danazol (not commonly used now a days) because of its many side effects

- Danazol- loaded IUCDs have been shown in some studies to improve symptoms and also less side effects as compared to oral danazol (14,15,16).

SURGICAL MANAGEMENT OF ADENOMYOSIS:

Though hysterectomy has been the definitive treatment for Adenomyosis until recently (16,17), however, this option should be kept aside for only those patients who have completed their families with no desire for future fertility.

- Excision of the affected area of myometrium (adenomyomectomy) can be offered to those patients where the extent of the condition is well-defined and well-demarcated . this can be a promising viable option in women desirous of future fertility or those who are against hysterectomy .
- However , in patients who have large or multiple areas of the myometrium involvement, may have future risks of obstetric complications eg. Uterine rupture and adhesion formation and its sequel thereof.
- ENDOMETRIAL ABLATION OR RESECTION (EA OR ER): is an option in patients with superficial disease (deep seated adenomyosis when treated with ablation or resection of the endometrium, invariably end up in treatment failure) and also cannot be offered to patients who want to preserve their fertility.
- UTERINE ARTERY EMBOLIZATION (UAE) : is a treatment

option in patients of adenomyosis with concurrent fibroids or uterine leiomyomatosis.

- LAPROSCOPIC UTERINE ARTERY LIGATION: This has Not been very well studied and available literature have not found it to be very effective in adenomyosis.

CONCLUSION:

Adenomyosis uteri is one of the most common clinical conditions encountered by gynaecologists all over the world . The exact etiopathogenesis still remains elusive, with its symptomatology poorly defined and severity of symptoms not always correlating correctly with the severity of condition. With the advancement in imaging modalities eg. Pelvic MRI and 3D-TVS, it has become easier to establish the diagnosis of Adenomyosis accurately and this has helped in providing better pre-operative patient counselling and more directed treatment options. Though hormonal treatment can provide symptomatic relief, and reduce the disease progression, nevertheless its use is limited by the various side-effects encountered. Studies regarding the long term outcomes and effects on the fertility and pregnancy are awaited. As of today, hysterectomy and LNG-IUS remain the cornerstone of treatment for Adenomyosis uteri.

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