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UPDATE ON CLINICAL DIAGNOSIS AND MANAGEMENT OF ADENOMYOSIS

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ABSTRACT:
INTRODUCTION
IN THIS ARTICLE WE SUGGEST A MODERN APPROACH TO MANAGING A PATIENT WITH A CHRONIC ILLNESS SUCH AS ENDOMETRIOSIS AND PARTICULARLY ADENOMYOSIS OF THE UTERUS.
MAIN TEXT
ADENOMYOSIS OFTEN COEXISTS WITH OTHER UTERINE PATHOLOGIES LIKE LEIOMYOMA AND, ESPECIALLY, DEEP AND SUPERFICIAL PERITONEAL AND OVARIAN ENDOMETRIOSIS. FOR PROPER MANAGEMENT OF THESE INTRICATE DISEASES, HEALTH CARE SPECIALISTS AND GYNECOLOGISTS NEED TO BE TRAINED IN DETECTING ENDOMETRIOSIS.
CLEAR AND COMPLETE DIAGNOSIS REPORTING IS HELPFUL FOR NETWORKING AND ESSENTIAL TO ANY PROFESSIONAL MANAGING THIS DISEASE, FOR A BETTER INTERSPECIALTY COOPERATION.
MANAGEMENT OF ADENOMYOSIS SHOULD BE TAILORED FOR THE SPECIFIC SYMPTOMS AND NEEDS OF THE PATIENT.
LONG TERM FOLLOW-UP SHOULD TAKE PLACE PREFERABLY IN SPECIALIZED CENTERS OF EXCELLENCE IN ENDOMETRIOSIS SURGERY. COMPLETE CARE SHOULD BE PROVIDED BY THE MULTIDISCIPLINARY TEAM.
CONCLUSION
INCREASING AWARENESS FOR THIS DISEASE BOTH AMONGST MEDICAL CAREGIVERS AND PATIENTS CAN IMPROVE EARLY DIAGNOSIS, BETTER CARE AND PRESERVATION OF FERTILITY.

KEY WORDS: ADENOMYOSIS, ENDOMETRIOSIS, DEEP INFILTRATING ENDOMETRIOSIS, ADENOMYOMA

INTRODUCTION

In this article we suggest a modern approach to managing a patient with a chronic illness such as endometriosis and particularly adenomyosis of the uterus.

Adenomyosis is a form of endometriosis affecting the myometrium, morphologically described as endometrial glands and stroma within the uterine musculature. It was first mentioned by an anatomopathologist - Rokitansky in the 18th century as 'cystosarcoma adenoids uterinum'. It is generally estimated that adenomyosis is present in about 20-25% of women[13]. Most specialists agree that adenomyosis is present in women in the later reproductive years, and rarely in youg adolescent women – based on histerectomy specimens.

Little to no progress has been made for decades both in understanding pathophysiology and treatment of the associated pain and infertility. To support this idea, there is no consensus on management or guideline for this particular disease in Romania. Because of the particularities of diagnosis and treatment of endometriosis, a lot of patients are diagnosed with a delay of as much as 10 years since the beginning of the symptoms[14]. In this delay there are multiple attributing factors such as the belief that the disease cannot affect young adolescents, physicians not

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considering the disease, lack of medical education in schools for young girls, who should be thought about normal menses and sharing their concerns and symptoms with the general practitioner[15].

MAIN TEXT

Adenomyosis often coexists with other uterine pathologies like leiomyoma and, especially, deep and superficial peritoneal and ovarian endometriosis. Because of the frequent coexistence with endometriosis, we must always look for peritoneal endometriosis lesions in patients with adenomyosis and vice-versa. For proper management of these intricate diseases, health care specialists and gynecologists need to be trained in detecting endometriosis[16]. Guided by the principle that you only see what you recognize, this disease is still very much underdiagnosed and consequently sub optimally treated.

The best **training** for interested specialists would be in a center of excellence in endometriosis, specifically a center of excellence in endometriosis surgery, with the emphasis on "surgery" due to the fact that without the operating part, a center would lack the quality control and complete management of the illness[17]. Typically the endometriosis patient gets through an

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integrated approach involving multiple different specialties like gynecologyst, infertility specialists, pain management, nurses, physiotherapists, nutritionists, patient support organisations and also non traditional practitioners if needed[18]. These endometriosis centers or networks of excellence are accredited periodically by professional bodies to ensure continued performance.

Women with suspected adenomyosis should have thourough evaluation consisitng of detailed history, pelvic evaluation and imaging. Laboratory tests are used only for differential diagnosis and for diagnosing anemia.

The medical history should contain detailed obstetric, gynecological and other significant medical history. The questions should focus on dismenoreea, meno/metrorrhagia, dispareunia, dischezia, disuria, chronic pelvic pain, other cyclic or non-cyclic pain and infertility. The scoring of pain reporting should use the visual analog scale (VAS) detemining the intensity of pain from one to ten. Pain scores higher than 7 are associated with poor quality of life, altered mental and social status and usually necessitate the admnisitration of painkillers.

Clinical examination of a patient with suspicion of adenomysis is comprised of a bimanual evaluation of the pelvis typically showing a mobile, difusely enlarged (usually globular) soft and possibly tender uterus. Particular cases can present with fixed uterus (association with deep infiltrating endometriosis)[19].

Transvaginal ultrasound (TVUS) is the first line imaging choice for evaluation of adenomyosis. The two week learning programme proposed by Guerriero S, Pascal MA, Ajossa S, et al.[20] for TVUS detection of lesions is fesible to improve diagnosis of deep infiltrating endometriosis. TVUS evaluation of the pelvis should include: uterus size, shape, description of the myometrium and endometrium, mobility - sliding sign, both adnexa (including mobily, position, cysts), rectovaginal septum, rectosigmoid/bowel lesions, uterosacral ligaments, anterior compartment – bladder. If suspected abdominal ultrasound can diagnose a ureteral obstruction.

Other imagining options are Magneric Resonance Imaging (MRI) but it should be recommended for patients with inconclusive TVUS, when accurate diagnosis is essential for further management. Also to aid surgical planning of adenomyosis excision MRI is often performed.

Both imaging tehniques evaluate the myometrial changes the same way: ‘asymmetric thickening of the myometrium (with the posterior myometrial typically thicker), (2) myometrial cysts[21], linear striations radiating out from the endometrium[22], loss of a clear endomyometrial border, and[23] increased myometrial heterogenity. With MRI, some quantitation of the thickening

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of the junctional zone is possible, with >12 mm generally considered diagnostic of the disease and <8 mm excluding adenomyosis'[24].

To note that endometrial byopsy is not informative in the diagnosis since this is a myometrial disease[25]. Definitive diagnosis is made based on anatomopathology evaluation of the myometrium using a histerectomy specimen.

The second part of our recommendations for the clinician consulting adenomyosis is directed to proper **diagnosis reporting**. The Romanian national guideline for endometriosis approves the revised American Society of Reproductive Medicine guideline (rASRM) for endometriosis staging but there is no mention of adenomyosis in this classification. Completing this intra operatory evaluation score (rASRM) is the Enzian score - which takes into account the deep infiltrating endometriosis lesions and endometriosis lesions outside the small pelvis or infiltrating adjacent organs. This classification mentions that whenever adenomyosis is diagnosed it should be marked as FA (far, adenomyosis). Both the Enzian and rASRM classifications fail to describe adenomyosis completely (localization, depth of penetration, interaction with the endometrium, vascularity, number of lesions, etc.) and when reported they do not help other physicians make a treatment plan.

In 2015 the consensus opinion of the MUSA (Morphological Uterus Sonographic Assessment - [26]) group issued a statement that gave us an important tool to correctly describe and report ultrasonographic aspects of various uterine pathologies, including adenomyosis. Based on this generally accepted guidelines for sonographic assessment the group differentiates uterine adenomyosis from fibroids. Regarding adenomyosis MUSA group gives an exhaustive description of the lesions: adenomyosis can be present in one or more sites (i.e. focal adenomyosis) within the uterine wall or involve most of the myometrium in a dispersed pattern (i.e. diffuse adenomyosis). A rare form is represented by a cystic structure (described as an adenomyotic cyst or adenomyoma).

The MUSA group also discusses two different phenotypic adenomyosis forms. The first type, described as 'classic adenomyosis' is the result of the invasion of the endometrium into the muscularis uteri and the other one is the result of the invasion of the peritoneal lesions into the uterine serosa[27].

Clear and complete diagnosis reporting is helpful for networking and essential to any professional managing this disease, for a better interspecialty cooperation. Unfortunately, in clinical practice, the implementation of these recommendations have not progressed as expected and there is a big interobserver variability in describing myometrial pathology.

Management of adenomyosis should be tailored for the specific symptoms and needs of the patient.

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Historically the definitive treatment for adenomyosis was total or supracervical hysterectomy, being a disease limited to the myometrium, the ovaries and cervix are usually conserved.

For women with mild to severe symptoms and who have future plans for pregnancy, one can either choose no treatment with observation of progression every 6 months, or hormonal treatment - starting with oral combined contraceptives, progestin only pills or a levonorgestrel intrauterine device. For severe disease and prior to artificial reproductive techniques (ART), gonadotropin modulating hormones can be used to induce a menopause-like state and regression of myometrial lesions.

For women with severe symptoms who completed childbearing, hysterectomy is the treatment of choice with the alternative of uterine artery embolization. During surgery, all sites of endometriosis should be thoroughly examined and, if possible, excised completely.

Uterus sparing resection is a surgical procedure chosen for fertility preservation purposes. It is a very demanding surgical procedure intended to excise the adenomatous tissue from the myometrium and perform a uterine reconstruction using a triple flap method as described by Osada. Reported uterine rupture rates with the tehnique are approximately 4%[28]. Uterine reconstruction tehniques are laborious, time consumptive, high risk and are performed by abdominal open route only, as to obtain better suturing and approximation of tissue in multiple layers.

Seldom used techniques are radiofrequency ablation and high intensity frequency ultrasound (HIFU)[29].

Being a long-term, chronic disease, periodic follow up is the key for a quality management. Postoperatively patients should be reevaluated at 1, 3, 6 and 12 months by a standard gynecological evaluation, assessment of painful symptoms, recurrence of disease and very importantly quality of life assessment. Patients with adenomyosis should have a periodic follow up every 6 months or in case of emergency. Also in selected cases couples who desire future pregnancy are referred to artificial reproductive techniques (ART) for counseling. These couples should be informed that clinical pregnancy rates are lower in patients with adenomyosis – a retrospective analysis was carried out by an Indian group of scientists[30] comparing clinical pregnancy rates in patients with adenomyosis, endometriosis and control groups – the clinical pregnancy rate 22.72% in women with endometriosis and adenomyosis, 23.44% in women with adenomyosis only and 34.55% in healthy patients. Also miscarriage rates are higher in patients with adenomyosis: 35% in women with endometriosis and adenomyosis, 40% in women with adenomyosis only and 13.04% in healthy patients.

As we mentioned long term follow-up should take place preferably in specialized center of excellence in endometriosis surgery. Complete care should be provided by the multidisciplinary team of gynecologyst, infertility specialist, pain management doctor, physiotherapist, nutritionist and possibly non traditional practitioner. The multidisciplinary team offers a core of experts who adress this complex illness with the goal of reducing reccurence of disease, improving pain scores

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of dysmenoreea, reducing menorrhagya, improving social life, improving fertility outcome. No less important the patient is encouraged talk to other with the same disease via patient support organisations because it gives them hope and a sense of belonging.

CONCLUSIONS

Uterine adenomyosis is a widespread disease affecting approximately 20-35% of women across the reproductive years. Symptoms may vary in intensity and can be heavy menstrual bleeding, dysmenorrhea, chronic pelvic pain, dyspareunia, bloating - all of which can determine a low quality of life, depression, anxiety and infertility.

General practitioners and especially gynecologists should consider the diagnosis of adenomyosis when encountering the symptoms mentioned above. It is also important to get trained in a dedicated center for excellence in endometriosis surgery to improve diagnosing and managing this disease or referring the patients to these specialized centers where they can get a holistic approach from a multidisciplinary team.

Diagnosing and reporting should be done by the international standards to aid in follow-up and also in disease management. Regular check-ups every six months with a pelvic exam, imaging and also pain symptoms assessment is recommended for a good control of recurrence and pain.

For a better compliance and medical care, patients with endometriosis should be well informed about their disease and about treatment options, including fertility preserving surgery. Artificial human reproduction is an important part in the management of infertile couples suffering from adenomyosis.

Increasing awareness for this disease especially in young adolescents can improve early diagnosis, better care and preservation of fertility.

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