Introduction

Adenomyosis is a nonneoplastic condition, characterized by benign invasion of ectopic endometrium into the myometrium with hyperplasia of adjacent smooth muscle. The common symptoms include dysmenorrhea, menorrhagia, and abnormal uterine bleeding, but these do not allow diagnosis. Therefore, imaging plays an important role because establishment of the correct preoperative diagnosis is critical to avoid unnecessary intervention. Magnetic resonance (MR) imaging is a highly accurate noninvasive modality for diagnosis of adenomyosis, differentiation of adenomyosis from other gynecologic disorders, and planning of appropriate treatment. ***(Tamai,2005)***

Transabdominal sonography (TAS) or transvaginal sonography (TVS) is commonly used as the initial imaging modality. TAS does not allow reliable diagnosis of adenomyosis or consistent differentiation from leiomyomas because of its limited spatial resolution **.** ***(Reinhold,.1998)***

TVS, which can improve spatial resolution with its higher frequency, is known to be accurate in diagnosing adenomyosis, but it actually has limitations in tissue characterization.

Magnetic Resonance (MR) is an excellent non-invasive means of directly evaluating the zonal architecture of the uterus and has been shown to be reliable in detecting adenomyosis and differentiating it from leiomyoma **.** ***(Togashi.,1989).***

The image resolution of both transvaginal ultrasound and MRI is effective for the diagnosis of adenomyosis. In a limited number of well-

designed studies the diagnostic efficiency of MRI and transvaginal ultrasound were almost in line. With transvaginal ultrasound, considerable training is needed to recognize the distinct ultrasound pattern in the diagnosis of adenomyosis. The findings in MRI are less observer dependent, but still somewhat dependent on an MRI observer who is expert in gynecologic imaging**.** ***(Duehom, 2007)*****.**

Although the typical MR imaging findings are well established, adenomyosis actually varies widely in terms of histopathologic features (adenomyosis with sparse glands), growth patterns (polypoid adenomyoma, adenomyotic cyst, and miniature uterus), responses to hormonal activity (tamoxifen, decidual changes), and responses to treatment (gonadotropin-releasing hormone agonist). The MR imaging findings of adenomyosis occasionally mimic those of uterine malignancy . ***(Tamai,2005)***

Furthermore, malignancy occasionally develops in otherwise benign adenomyosis. Pitfalls in diagnosis of adenomyosis include myometrial contractions, leiomyoma, adenomatoid tumor, metastases, endometrial carcinoma, and endometrial stromal sarcoma. Knowledge of the various appearances of adenomyosis and the possible pitfalls in differential diagnosis help guide the determination of appropriate treatment options**.** ***(Tamai,2005)***

Magnetic resonance (MR) imaging is also an accurate, noninvasive modality for diagnosing adenomyosis and may be more helpful than TVS in distinguishing adenomyosis from a leiomyoma, which is perhaps the most clinically important distinction. Although the typical findings of the

lesion are well established, MR imaging findings vary widely, occasionally mimicking uterine malignancy or ovarian cancer. ***(M Balogum2006)***

Precise knowledge of histopathologic backgrounds helps identify these unusual appearances and avoid unnecessary intervention **.** ***(Christine Bergeron, 2006)***

Aim of the work

Is to compare between the role of Magnetic Resonance (MR) and the Transvaginal Sonography (TVs) in diagnosis of adenomyosis.