Introduction

Endometriosis is defined as the presence of functional endometrial glands and stroma outside the uterine cavity and the myometrium***(Bhatt , et al.,2006).***

It may occur as endometrial implants along various peritoneal surfaces, or it may occur as a focal cystic collection, referred to as an **''endometrioma.''** The terms **''endometriosis''** and **''endometrioma''** frequently are used interchangeably, but endometriomas are only a part of the disease process, which also may include endometriotic implants and adhesions ***(Woodward , et al.,2001).***

Endometriosis is a relatively common gynecologic problem in women of reproductive age. Two leading theories exist for its cause; one hypothesis suggests that mesenchymal cells with retained multipotential may, under the proper circumstances, undergo metaplasia into endometriosis. The other theory states that endometrial cells may be transported to ectopic sites forming an endometrioma ***(Dwivedi et al.,2002).***

Deeply infiltrating endometriosis is defined as an endometriotic lesion penetrating into the retroperitoneal space or the wall of the pelvic organs to a depth of at least 5 mm. Peritoneal, ovarian, and deep endometriosis may be diverse manifestations of a disease with a single origin ***(Vercellini et al .,2004).***

The radiologist often is involved in the diagnosis and workup of this disease , particularly in two scenarios: excluding endometriosis in woman with pelvic pain or infertility or considering endometriosis in differential diagnosis of adnexal masses. Imaging methods , especially magnetic resonance imaging (MRI), with sequences which permit demonstration of the hemorrhagic content of these lesions, have made great progress in the diagnosis of this disease ***(Ascher et al., 1995).***

Several imaging methods, such as transvaginal ultrasonography (TVUS), transrectal ultrasonography (TRUS) and magnetic resonance imaging (MRI) have been used in an attempt to improve the non-invasive diagnosis of endometriosis ***(Abrao et al., 2004).***

The use of MRI for the diagnosis of endometriosis underwent a major milestone following the publication of a study carried out by ***(Nishimura et al.,1987)***, who demonstrated the value of this method in the diagnosis of ovarian endometriosis. Although this diagnostic tool has been shown to be effective for evaluating the ovary, transvaginal ultrasonography (TVUS) remains the diagnostic method of choice in these situations, generally reserving MRI as a tool for resolving cases in which there is some doubt. The use of MRI for the evaluation of deep pelvic endometriosis was first proposed by ***(Siegelman et al., 1994),*** who studied its role in analyzing solid pelvic masses. However , the promising results of this method for the specific evaluation of deep pelvic endometriosis have been reported by other investigators ***(Abrao et al., 2007).***

Although sonography is the first choice of imaging examination, MRI is more specific than sonography in diagnosis of endometrioma and can be used as a secondary imaging examination ***(Carbognin et al.,2004).***

MR imaging is now commonly used for diagnosis of endometriomas and provides a tremendous advantage over other methods of investigation, owing to the possibility of making a complete survey of the anterior and posterior compartments of the pelvis at one time ***(Balleyguier et al .,2002).***

Aim of the Work

The aim of this work is to highlight the excellent role of magnetic resonance imaging in diagnosis of endometriosis.