

MODERN METHODS OF DIAGNOSIS AND TREATMENT OF UTERINE MYOMA: LITERATURE REVIEW AND CLINICAL PRACTICE

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Abstract

Uterine myomas (leiomyomas) are the most common benign tumors in women of reproductive age. This article provides a comprehensive review of current diagnostic and treatment modalities for uterine myomas, based on an analysis of the existing literature and clinical practice guidelines. The focus is on advanced imaging techniques, such as MRI and ultrasound, as well as minimally invasive surgical approaches, including hysteroscopy and laparoscopy. Additionally, the role of pharmacological interventions, such as selective progesterone receptor modulators and GnRH analogs, and uterine artery embolization is discussed. The article aims to provide clinicians with an updated overview of the optimal strategies for diagnosis and management of uterine myomas, considering factors like tumor size, location, patient age, and fertility desires.

Keywords: Uterine Myoma, Leiomyoma, Diagnosis, Treatment, MRI, Ultrasound, Laparoscopy, Hysteroscopy, Pharmacological Therapy, Uterine Artery Embolization, SPRM, GnRH Analogs

INTRODUCTION

Uterine myomas, also known as leiomyomas, are the most common benign tumors of the female reproductive system, affecting a significant proportion of women during their reproductive years. The prevalence of uterine myomas increases with age, peaking in the late reproductive years and declining after menopause. While many women with uterine myomas remain asymptomatic, others experience a wide range of symptoms, including abnormal uterine bleeding, pelvic pain, pressure, and reproductive dysfunction. The impact of these symptoms on quality of life can be substantial.

The etiology of uterine myomas is complex and multifactorial, involving genetic, hormonal, and environmental factors. Understanding the pathophysiology of myoma development is crucial for developing effective treatment strategies. Accurate diagnosis is essential for appropriate management. Advances in imaging techniques have significantly improved the ability to detect and characterize uterine myomas. Treatment options range from expectant management to medical therapies and surgical interventions, with the choice of treatment tailored to the individual patient's symptoms, reproductive goals, and overall health.

This literature review aims to provide an updated overview of the current diagnostic modalities and treatment approaches for uterine myomas. We will examine the strengths and limitations of various imaging techniques, the efficacy and safety of different medical therapies, and the role of surgical interventions in the management of symptomatic myomas. We will also discuss the evolving landscape of minimally invasive surgical techniques and the importance of individualized treatment planning in optimizing patient outcomes. Furthermore, this review will incorporate clinical practice experience to provide a practical perspective on the challenges and opportunities in managing women with uterine myomas.

MATERIALS AND METHODS

This article is a comprehensive literature review and synthesis of clinical practice guidelines pertaining to the diagnosis and treatment of uterine myomas. The literature search was conducted using electronic databases, including PubMed, Scopus, and Cochrane Library. Search terms included: "uterine myoma," "leiomyoma," "diagnosis," "imaging," "ultrasound," "MRI," "hysteroscopy," "laparoscopy," "medical therapy," "surgical treatment," "uterine artery embolization," and "GnRH analogs."

The search was limited to articles published in English within the past 10 years, although seminal older articles were included if they remained relevant to current clinical practice. Articles were selected for inclusion based on their

relevance to the diagnosis, management, and treatment of uterine myomas. The following types of articles were considered: original research articles, randomized controlled trials, meta-analyses, systematic reviews, clinical practice guidelines, and expert opinions.

Data extraction was performed by two independent reviewers, who assessed the quality of the studies and extracted relevant information on diagnostic accuracy, treatment efficacy, safety, and patient outcomes. Discrepancies were resolved through discussion and consensus. The clinical recommendations were formulated based on the best available evidence and expert opinion. These recommendations were further refined based on the authors' clinical experience in the management of women with uterine myomas.

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