

## MENORRHAGIA: A COMPREHENSIVE REVIEW

Rupali Babasaheb Raut<sup>1\*</sup> and Radha H. Phadnis<sup>2</sup><sup>1</sup>PG Scholar (Strirog and Prasuti Tantra) Hon. Shri. Annasaheb Dange Ayurved Medical College and Research Centre.<sup>2</sup>Reader (Strirog and Prasuti Tantra) Hon. Shri. Annasaheb Dange Ayurved Medical College and Research Centre.

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\*Corresponding Author

Dr. Rupali Babasaheb Raut

PG Scholar (Strirog and Prasuti

tantra) Hon. Shri. Annasaheb

Dange Ayurved Medical

College and Research

Centre.

**ABSTRACT**

Menorrhagia, defined as excessive menstrual bleeding, is a common gynecological condition affecting women of reproductive age. This article provides a comprehensive review of menorrhagia, including its definitions, etiology, pathophysiology, diagnosis, management options, and impact on quality of life. By synthesizing current research and clinical guidelines, this review aims to equip healthcare professionals with a thorough understanding of menorrhagia to improve patient outcomes.

**KEYWORDS:** Menorrhagia, Heavy menstrual bleeding, Uterine fibroids, Endometrial polyp.

**INTRODUCTION**

Menorrhagia, or heavy menstrual bleeding, is characterized by prolonged or excessive bleeding during menstrual periods. It is a prevalent condition that can significantly affect a woman's physical, emotional, and social well-being. Understanding menorrhagia requires a multidisciplinary approach, encompassing gynecology, endocrinology, and hematology. This review will explore the various aspects of menorrhagia, including its definitions, underlying causes, diagnostic approaches, treatment options, and implications for women's health.

**Definitions**

Menorrhagia is traditionally defined as menstrual bleeding that lasts longer than seven days or involves blood loss greater than 80 mL per cycle. However, individual perceptions of what constitutes heavy bleeding can vary. Consequently, clinical assessments often involve patient-reported symptoms, including:

- Soaking through one or more sanitary pads or tampons every hour for several consecutive hours.
- Needing to use double protection (e.g., a pad and a tampon) to control menstrual flow.
- Experiencing menstrual bleeding that interferes with daily activities.

**Etiology**

The causes of menorrhagia are diverse and can be classified into several categories:

**1. Uterine causes**

- **Uterine fibroids:** These benign tumors can cause increased bleeding due to their size and location within the uterus.
- **Endometrial polyps:** These growths on the uterine lining can lead to irregular and heavy bleeding.
- **Adenomyosis:** This condition occurs when endometrial tissue grows into the uterine muscle, resulting in heavy bleeding and painful periods.
- **Endometrial hyperplasia:** Thickening of the uterine lining can lead to abnormal bleeding patterns.

**2. Hormonal causes**

Hormonal imbalances, particularly involving estrogen and progesterone, can lead to menorrhagia. Conditions such as polycystic ovary syndrome (PCOS) and thyroid disorders can disrupt normal hormonal regulation, resulting in heavy bleeding.

**3. Coagulation disorders**

Systemic conditions that affect blood coagulation can also contribute to menorrhagia. Conditions such as von Willebrand disease, platelet dysfunction, and anticoagulant therapy may result in excessive menstrual bleeding.

**4. Other causes**

- **Intrauterine Contraceptive Devices (IUDs):** Certain types, especially non-hormonal IUDs, can increase menstrual bleeding.

- **Infections:** Pelvic inflammatory disease (PID) and other infections can cause abnormal bleeding.
- **Malignancies:** Endometrial cancer or cervical cancer can manifest as abnormal bleeding.

### Pathophysiology

Understanding the pathophysiology of menorrhagia involves a detailed examination of the menstrual cycle and the factors that regulate it. A normal menstrual cycle is orchestrated by the interplay of hormones from the hypothalamus, pituitary gland, and ovaries, leading to cyclic changes in the endometrium.

In conditions like fibroids or adenomyosis, structural abnormalities can lead to increased surface area of the endometrium and an overproduction of prostaglandins, which may result in increased menstrual flow. In cases of hormonal imbalance, particularly in anovulatory cycles, the endometrium may become excessively thickened (hyperplastic), leading to unpredictable and heavy bleeding.

### Diagnosis

The diagnosis of menorrhagia involves a thorough medical history, physical examination, and appropriate laboratory investigations. Key steps include:

#### 1. Patient history

A detailed history should focus on the patient's menstrual cycle patterns, severity of bleeding, associated symptoms (e.g., pain, fatigue), and any relevant medical or family history.

#### 2. Physical examination

A gynecological examination is essential to assess for any structural abnormalities (e.g., fibroids, polyps) and to rule out infections.

#### 3. Laboratory investigations

- **Complete Blood Count (CBC):** To evaluate for anemia due to blood loss.
- **Coagulation studies:** To assess for bleeding disorders, particularly if there is a family history.
- **Hormonal assays:** Thyroid function tests and tests for hyperandrogenism may be warranted, especially in cases of suspected PCOS.

#### 4. Imaging studies

Ultrasound (Transvaginal or pelvic) is often the first-line imaging modality to visualize the uterus and assess for structural abnormalities. Hysteroscopy may be performed for direct visualization of the uterine cavity and potential biopsy if indicated.

### Management

The management of menorrhagia is multifaceted and tailored to the underlying cause, severity of symptoms, and the patient's reproductive desires. Treatment options include:

#### 1. Medical management

- **Nonsteroidal Anti-Inflammatory Drugs (NSAIDs):** These can reduce menstrual flow and alleviate pain.
- **Hormonal therapies**
  - **Combined Oral Contraceptives (COCs):** Help regulate cycles and reduce bleeding.
  - **Progestins:** Can be used in women with anovulatory cycles.
  - **Levonorgestrel-Releasing Intrauterine System (LNG-IUS):** Highly effective for reducing menstrual bleeding.
- **Antifibrinolytics:** Medications like tranexamic acid can help decrease bleeding.

#### 2. Surgical management

When medical management is ineffective or inappropriate, surgical options may be considered:

- **Endometrial ablation:** A minimally invasive procedure to destroy the endometrial lining, reducing or stopping bleeding.
- **Myomectomy:** Surgical removal of fibroids if they are contributing to menorrhagia.
- **Hysterectomy:** Considered for women who have completed childbearing and do not respond to other treatments.

#### 3. Addressing coagulopathy

For women with underlying bleeding disorders, a hematology referral may be necessary, and treatment may include desmopressin for von Willebrand disease or hormone replacement therapy.

### Quality of life impact

Menorrhagia can profoundly impact a woman's quality of life, leading to physical discomfort, emotional distress, and social withdrawal. Studies have shown that women with menorrhagia experience higher rates of anxiety, depression, and reduced productivity. Addressing the psychological and social aspects of menorrhagia is essential in the management plan, ensuring comprehensive care.

### CONCLUSION

Menorrhagia is a complex condition with a variety of underlying causes and significant implications for women's health. Accurate diagnosis and tailored management strategies are crucial in improving outcomes and quality of life for affected women. Ongoing research and education for healthcare providers will enhance the understanding and treatment of menorrhagia, ultimately benefiting patients in their reproductive health journeys.

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