Emergency Evaluation and Management of Vaginal Bleeding in the Nonpregnant Patient

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KEYWORDS

• Vaginal bleeding • Fibroids • Endometriosis • Abnormal uterine bleeding
• Dysfunctional uterine bleeding • Menorrhagia • Progesterone

KEY POINTS

- The chief complaint of vaginal bleeding includes a broad differential, including pregnancy and pregnancy-related problems, underlying structural uterine pathology, and abnormal uterine bleeding without a known cause.
- Fibroids are common in many women with abnormal bleeding and can be diagnosed adequately with ultrasound in the emergency department.
- Endometriosis is a difficult diagnosis to make, but physicians need to maintain a high degree of suspicion for it in patients presenting with pain and bleeding.
- *Dysfunctional uterine bleeding* is a catch-all term with various interpretations. It should be changed to *abnormal uterine bleeding*, referring to both anovulatory and ovulatory bleeding disturbances.
- Several medical options are available for the treatment of abnormal uterine bleeding. Hysterectomy is a last resort for those who have no wish for further fertility and for whom medical treatment was not successful.

INTRODUCTION

Managing vaginal bleeding in the nonpregnant patient can be difficult for many emergency physicians because of the wide array of potential causes and the unfamiliar nature of management options. Sources of bleeding range from fibroids to endometriosis, and abnormal uterine bleeding can have anovulatory and ovulatory hormonal causes (**Box 1**). Pregnancy must always be ruled out. It is the job of the emergency physician to be aware of the rare life-threatening complications associated with these diagnoses that require emergent surgery and to rule out life-threatening anemia when

The authors received no financial support or gifts related to the preparation of this article.
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Emerg Med Clin N Am 30 (2012) 991–1006
http://dx.doi.org/10.1016/j.emc.2012.08.010 **emed.theclinics.com**
0733-8627/12/$ – see front matter

Box 1
Differential diagnosis for abnormal uterine bleeding

- Pregnancy/pregnancy-related bleeding
- Structural problems
  - Atrioventricular malformation
  - Polyps
  - Fibroids
  - Endometriosis
  - Hyperplasia
- Coagulopathies (ie, von Willebrand disease)
- Polycystic ovarian syndrome
- Intrauterine or oral contraceptives
- Medications (antiepileptics, typical and atypical antipsychotics)
- Endometritis (gonorrhea, chlamydial infection)

bleeding is severe. Obstetric consultation can be obtained, with imaging as an outpatient, unless life-threatening complications are suspected.

FIBROIDS (UTERINE MYOMAS)

Epidemiology and Pathophysiology

Fibroids are benign, often asymptomatic, tumors that occur within the uterus. Fibroids are the most common pelvic tumor in the gynecologic patient population. Prevalence studies estimate that from 20% to nearly half of American women in their reproductive years have uterine fibroids, and the majority are asymptomatic.[1] The occurrence appears to increase with age. It is also higher in African Americans than in Caucasians, with a cumulative occurrence of 80% in African Americans and 70% in whites and by age 50 years.[1] Most fibroids are asymptomatic; therefore, the emergency physician needs to determine whether the cause of vaginal bleeding or lower abdominal pain is a symptomatic fibroid or a more serious condition.

Etiology

The exact cause of fibroids is unknown. Fibroid growth is largely dependent on steroid hormones and genetic factors. The hormones that have been implicated in fibroid physiology are estrogen, progestin, and gonadotropin-releasing hormone agonists (GnRH-a).[2] Historically, decreased estrogen concentration was believed to be the independent cause of the postmenopausal decrease in fibroid growth.[3] However, it is now known that an increased level of GnRH-a during menopause suppresses release of estrogen and progestin from ovarian follicles.[4] Therefore, the growth of fibroids depends on progestin, estrogen, and GnRH-a balance. This physiology plays an important role in tailoring pharmacologic therapies to suppress fibroid growth.

Symptoms, Diagnosis, and Management

The Federation International d'Obstetrique et Gynecologie (FIGO) classification system is widely accepted and defines the position of fibroids within the uterine wall.[5] Fibroids are classified as SM (at least 1 submucosal lesion) or O (all intramural or subserosal layer). Most clinically relevant fibroids are submucosal.