



Review Article

Causes of Dysfunctional Uterine Bleeding In Pre-Menopausal, Peri-Menopausal and Post-Menopausal Women: A Systematic Review of World Literature Between Year 1992 to 2017

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ABSTRACT

All females in their reproductive age experience monthly uterine bleeding, known as menstrual cycle **Objective:** To evaluate the causes of dysfunctional uterine bleeding in pre-menopausal, peri-menopausal and post-menopausal women. **Methods:** Data for this article was extracted from Google scholar and PubMed, including 25 original articles published from 1992 to 2017. **Results:** Dysfunctional uterine bleeding is a major source of anxiety among females of different age, as well as a frequent cause of emergency room visits and/or hospitalizations. **Conclusion:** The most prevalent causes of irregular uterine bleeding in perimenopausal women are benign endometrial and myometrial lesions, but endometrial hyperplasia and, in particular, uterine malignancies must be examined, especially as women get older.

INTRODUCTION

All females in their reproductive age experience monthly uterine bleeding, known as menstrual cycle. Routine menstruation is defined as "the bleeding associated with an ovulatory cycle from secretory endometrium, within five days". Any bleeding not consummating these criteria is referred to as eccentric/abnormal or dysfunctional uterine bleeding [1]. Presentation of abnormal bleeding can be present in different ways such as: 1. Menorrhagia, that is when the bleeding occurs at regular intervals and continuous for more than 7 days in a row with blood loss more than 80 ml. 2. Metrorrhagia is defined as irregular intervals in the occurrence of bleeding. 3. Menometrorrhagias the term used when there is abnormally heavy and irregular bleeding. 4.

Oligomenorrhea is said when the length of menstrual cycle increases from 41 days to 3 months [2]. Premenopause is a term that is frequently used interchangeably to refer to either the 1 or 2 years directly preceding menopause or the entire reproductive phase preceding menopause. The WHO suggested that this term should be more used for the entire reproductive time before the last menstrual period [3]. The term "perimenopause" was defined by, the Stages of Reproductive Aging Workshop (STRAW), in 2001, as the start of time of changes in menstrual cycle and lasting up to 12 months after the last menstrual bleeding [4,5]. The time period circumventing the last menstrual event is called perimenopause. During this time duration, there is an authentic risk of pelvic pathology due to disruption of the

routine menstrual cycle and decrease reproductive capacity [6]. Termination of menstrual bleeding for about 1 year in a female of age between 45 and 52 is called as menopause [7]. Dysfunctional uterine bleeding in postmenopausal females is the episodes of abnormal bleeding, after the termination of menstruation for more than 1 year, or the females undergoing hormone replacement therapy for more than 1 year after menopause [8].

METHODS

In this review article, data was extracted from Google scholar and PubMed. 35 original articles were downloaded from year 1992 to 2017. 25 articles provided useful data on the given topic, while 10 articles showed no significant relevant information.

DISCUSSION

Due to changes in estrogen levels, perimenopausal time is commonly marked by menstrual cycle abnormalities in terms of frequency and volume. These alterations are unexpected and one-of-a-kind for every woman. Despite the fact that unpredictable bleeding patterns are common and expected aspect of perimenopause, this age group also faces different kinds of uterine diseases and their different consequences [9]. Endometrial hyperplasia may arise from long anovulatory periods combined with unopposed estrogen stimulation, increasing the risk of endometrial cancer. In the perimenopausal phase, abnormal uterine bleeding becomes significant. Among all gynecological outpatients' visit, perimenopausal women with abnormal uterine bleeding accounts for about 70 % [10]. Anovulatory dysfunctional uterine bleeding occurs when the hypothalamic-pituitary-ovarian axis is disrupted, resulting in irregular, extended, and at times heavy menstrual flow [11]. The International Federation of Gynecology and Obstetrics (FIGO) Menstrual disorders group has identified dysfunctional uterine bleeding as a sign of a variety of underlying disorders. Polyps, adenomyosis, leiomyomas, malignancy and premalignant diseases, coagulopathy, ovulatory disorders, endometrial disorders, iatrogenic, and "not classified" are all categorized as causes of abnormal uterine bleeding in this approach [12]. In a study, complicated hyperplasia without atypia (30.9%) was the most prevalent histological pattern among endometrial samples of post-menopausal females with dysfunctional uterine bleeding, followed by atrophic endometrium (24.5%), simple hyperplasia (23.6%), malignancy (12.7%), complex hyperplasia with atypia (4.5%), and benign endometrial polyp (3.6 percent) [13]. In another study, proliferative phase endometrium was the most prevalent histologic pattern in AUB, with the majority of patients centered on pre-menopause. This is owing to

the peak effect of hormonal imbalance, as patients in the premenopausal age range are commonly treated with hormone replacement therapy for various menopause-related problems [14]. When women of childbearing age arrive with abnormal uterine bleeding, the first thing that comes to mind is pregnancy [15]. Spontaneous pregnancy loss (miscarriage), ectopic pregnancy, placenta previa, placental abruption, and molar pregnancy are all possible causes of pregnancy-related bleeding [16]. Drugs such as anticoagulants, selective serotonin reuptake inhibitors, antipsychotics, corticosteroids, hormonal medications, and tamoxifen can cause bleeding. Menstrual abnormalities may be caused by herbal supplements such as ginseng, ginkgo, and soy supplements, which change estrogen levels or coagulation factors [17]. Patients should be assessed for systemic illnesses when pregnancy and iatrogenic causes have been ruled out, especially related to thyroid gland, liver, blood disorders, adrenal gland, pituitary gland and condition of hypothalamus. Hypothyroidism and hyperthyroidism both can be associated with menstrual abnormalities [18]. Inherited coagulopathy has been identified as the root cause of abnormal uterine bleeding in 18% of white women and 7% of black women presenting with heavy menstrual flow [19]. Polycystic ovarian syndrome is a prevalent cause of anovulation and is linked to unopposed estrogen stimulation, increased testosterone levels, and insulin resistance [20]. Diabetes has been linked to an increased risk of endometrial cancer [21]. Females with lengthy or irregular cycles are more likely to acquire type 2 diabetes and should be screened for the disease [22]. Anovulatory and ovulatory uterine bleeding are the two types of abnormal uterine bleeding that occur from adolescence to perimenopause. Periods of anovulatory bleeding are irregular or rare, with flow varying from mild to abnormally heavy [23]. Ovulatory abnormal uterine bleeding (menorrhagia) occurs at regular intervals (every 24 to 35 days), but with an abnormal volume or length of more than seven days, as compared to anovulatory patterns [24]. The most common symptom of endometrial polyp is intermenstrual bleeding, but many polyps are silent [25]. Adenomyosis is the presence of endometrial tissue in the myometrium. Its prevalence ranges from 5% to 70%, and the link between it and irregular uterine bleeding is unknown [26]. Fibroids (also known as leiomyomas) are benign tumors that arise from the uterine myometrium. They become more common as women become older, eventually being detected in up to 80% of all women [27]. The majority of leiomyomas are asymptomatic, however, bleeding is a common presenting sign, with heavy or prolonged menses being the most common. Abnormal uterine bleeding is more likely to be related to larger leiomyomas [28]. The most prevalent symptom of

endometrial cancer is abnormal vaginal bleeding [29]. Despite the fact that the risk of endometrial cancer rises with age, about a quarter of new cases are diagnosed in people under the age of 55 [30]. A bleeding disorder affects about 20% of patients who have severe menstrual bleeding, and the prevalence is significantly higher in adolescent girls who bleed heavily [31]. The most prevalent coagulopathies linked to abnormal uterine flow are Von Willebrand disease and platelet dysfunction [32]. Ovulatory dysfunction can be caused by a number of endocrine diseases [33]. During the first several years after menarche and during perimenopause, infrequent or absent ovulation is typical and isn't always an indicator of underlying disease [34]. Primary endometrial hemostasis disorders most commonly occur during regular ovulatory cycles and are caused by vasoconstriction disorders, inflammation, or infection. Endometrial dysfunction is poorly known; there are no effective diagnostic tools, and it should only be examined after all other possibilities have been eliminated. Abnormal uterine bleeding can be caused by a variety of medical treatments. Iatrogenic uterine bleeding is most commonly caused by hormonal contraception [35]. Abnormal menstrual blood loss is a major reason for women seeking medical attention, and it puts a strain on health-care resources. Because dysfunctional uterine bleeding can be caused by a number of functional and anatomical disorders, a thorough examination is recommended, particularly in perimenopausal women. Menorrhagia is a frequent problem, with the most prevalent cause being the patient's age. Endometrial curetting and biopsy are crucial procedures since a significant number of endometrial samples exhibited pathology.

CONCLUSION

Cervical cytology is a great addition, but histopathology is still the gold standard for diagnosis. In situations of perimenopausal and postmenopausal abnormal uterine bleeding, a histological study opens up new possibilities not just for detecting organic lesions such as polyps and hyperplasia, but also for detecting early atypical hyperplasia and endometrial cancer, which have a good prognosis if caught early. Treatment includes hormonal therapy, non-hormonal therapy, and hysterectomy as definitive management.

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