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CLINICAL, ULTRASOUND AND MORPHOPATHOLOGICAL CORRELATIONS IN A CASE OF METRORRHAGIA OCCURING IN A PERIMENOPAUSAL WOMAN

Olimid Diana[1]*
[1*]University of Craiova, Faculty of Horticulture
* *Correspondence author. E-mail*: olimiddiana@yahoo.com

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ABSTRACT

The paper presents the case of a 47-year-old perimenopausal woman who presented with metrorrhagia occuring after a 2-month period of amenorrhea. The patient was investigated through anamnesis, clinical examination, transvaginal ultrasound, endometrial biopsy and blood tests. The ultrasound showed blood inside the uterine cavity, a 7.5 mm thick endometrium and 2 follicles in the structure of the left ovary, the right one being absent due to surgical ablation. After 16 days of continuous metrorrhagia, uterine curettage was performed. Histopathological examination revealed endometrial hyperplasia without atypia and uterine leiomyoma fragments.

INTRODUCTION

The perimenopause or menopausal transition is the time before menopause, which can occur two to eight years before menopause and one year after menopause. This period marks the end of the reproductive years and it begins in the late 40's. Menopause is confirmed when a woman has 12 months without a menstrual period (WHO 1996). During the menopausal transition, the reproductive hormone levels fall and the women experience irregular menstrual cycles and unpleasant symptoms, such as anxiety, flashes, brain fog, mood changes, vaginal problems, skin dryness, changes in sexual function, osteoporosis and metabolic changes (Berra et al. 2010).

In the perimenopause abnormal uterine bleeding is considered part of the normal physiology. The time between periods may be longer or shorter, the flow may be heavy and can occur periods of amenorrhea (Dreisler et al. 2024).

The ovulation is irregular and insufficient or absent progesterone may lead to premature and irregular shedding of the endometrium (Kossaï & Renault-Llorca 2020)

Abnormal uterine bleeding may be heavy or prolonged bleeding, postcoital bleeding or intermenstrual bleeding. Heavy and prolonged bleeding is the result of the continuous estrogen stimulation of the endometrium. Amenorrhea occur when the estrogen blood levels are very low and there is no proliferation of the endometrium (Fraser et al. 2007, Munro 2019).

The abnormal uterine bleeding affects the women's quality of life and psychological well-being (Weisberg et al. 2016, Vitale et al. 2020, Pynnä et al. 2021, Vitale et al. 2022).

The normal uterine bleeding in the reproductive years are defined as a cycle duration of 24–38 days, a bleeding duration of 4.5 to 8 days and a volume of 5 to 80 ml (Munro et al. 2018).

Some studies showed 21 % prevalence of intermenstrual or postcoital bleeding self-reported, prevalence of 65% of heavy menstrual bleeding and 26 % “heavines that interferes with life” (Shapley et al. 2012, Shapley et al. 2013)

More than 90 % of women experience at least one episode of abnormal uterine bleeding during their transition to menopause and this it is the leading cause of approximately one-third of all gynecological examinations (Paramsothy et al. 2014).

The possible reasons for abnormal uterine bleeding are endometrial hyperplasia, endometrial polyps, leiomyomas or endometrial cancer (Munro et al 2018, Bosch et al. 2021).

To identify these causes is mandatory to perform gynecological examination, transvaginal ultrasound, histeroscopy, blood tests and histopathological examination (Dreisler et al. 2013, Wanderley 2016, Rezvani et al. 2017).

MATERIAL AND METHODS

The study included anamnesis, clinical examination, transvaginal ultrasound and endometrial biopsy of a 47-year-old perimenopausal woman, who presented for medical consultation due to uterine bleeding that occurred after a 2-month amenorrhea period.

The anamnesis provided information regarding the patient’s age, body mass index, medical history, number of births abortions, menstrual cycles characteristics, medication, and the reason that led the pacient to request the medical advice.

The clinical examination consisted of observing the appearance of the cervix, the flow of bleeding, and palpating the uterus and adnexal areas.

The ultrasound examination was performed transvaginally using a Siemens Aloka-5-alpha ultrasound and a 6.5 Mz transducer. The uterus, ovaries, adnexal areas and retrouterine Douglas space were sistematically evaluated.

RESULTS AND DISCUSSIONS

1. The following information were obtained through the anamnesis:

- the patient’s age: 47 years old;
- body mass index : $62/1.7\times1.7=21.45$ kg/m^2;
- vegetarian diet;
- the medical history: one cesarean births, no abortions;
- the history of previous menstrual periods: regular menstrual periods lasting approximately 28 days;
- date of the last normal menstruation: 60 days ago;
- characteristics of the last menstrual period: 3–4 days duration and normal blood flow;
- the current complaints: heavy uterine bleeding that started after a 2-month period of amenorrhea, and has not stopped after 10 days, altered general condition with a feeling of weakness.

2. The clinical examination showed the following aspects:

- bleeding that comes out through the cervix, with a continuous red blood flow;
- normal-sized uterus, placed in anteflexion and anteversion position;
- ovaries of normal size;
- supple adnexal areas;
- absence of pain on palpation.

3. The ultrasound scan showed:

- the uterine body was placed in anteflexion, with dimensions of 5.62/ 4.40 cm and regular outline;

- inside the uterine cavity, an anechoic and homogeneous image was observed, with the shape of the uterine cavity, an appearance suggestive of a fluid collection, most likely blood considering the clinical data (Figure 1);
- the cervix had dimensions of 2.90/ 3.11 cm; anechoic round images were visualized in the anterior and posterior walls of the cervix, measuring 4-5 mm, suggestive of glandular dilation;
- the myometrium had a homogeneous echogenic appearance;
- the endometrium had an intense echogenic appearance, a thickness of 7.5 mm and no color Doppler vascular signal inside (Figure 2, 3, 4);
- the right ovary was absent, having been removed during birth by cesarean section;
- the left ovary had dimensions of 4.47/ 2.88 cm and presented în its structure two anechoic round images with dimensions of 2.27/ 1.77 cm and 2.25/ 1.72 cm, suggestive of ovarian follicles (Figure 5);
- there was no fluid in the retrouterine Douglas space.

Because the uterine bleeding did not stopped following treatment with progesterone and the patient had an altered physical and mental state, after 16 days blind curretage of the uterine cavity was performed, for hemostatic and biopsy purposes.

The endometrial fragments were analized by histopathological examination. Uterine curretage was performed under antibiotic protection. After the intervention, the patient's clinical outcome was favorable, without hemorrhage.

The results of the histopathological examination of the endometrium were:

- fragments of endometrium with microscopic structure of glandular hyperplasia without atypia, cystic dilation of some glands and fibrous chorion with focal hematic infiltrates;
- adjacent, small fragments with leiomyomatous changes and areas of hyalinization were observed.

The results of the laboratory tests: hemoglobin value 12.8 mg/dl, hemoleucogram and coagulation tests within normal parameters.

In the proliferative phase of the menstrual cycle, the endometrium has a three-layered hypoechoic appearance. In the secretory phase endometrium increases in echogenicity, has a homogeneous echogenic appearance and may measure up to 16-18 mm în thickness (Leone et al. 2010, Langer 2017).

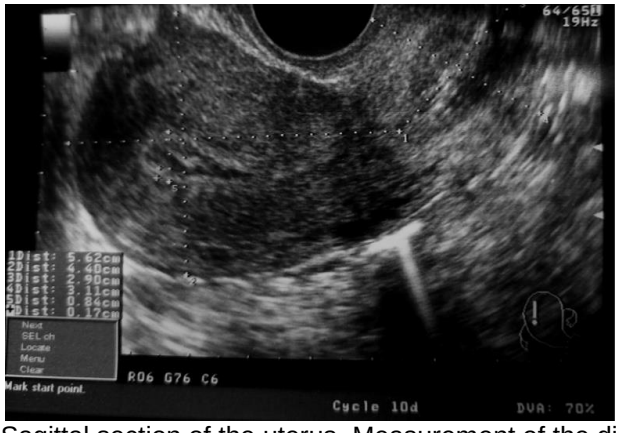

Figure 1. Sagittal section of the uterus. Measurement of the dimensions of the uterine body and cervix. The anechoic content of the uterine cavity due to the accumulation of blood is observed.

Figure 2. Sagittal section of the uterus. The inhomogeneous echogenic appearance of the endometrium and its thickness are observed.

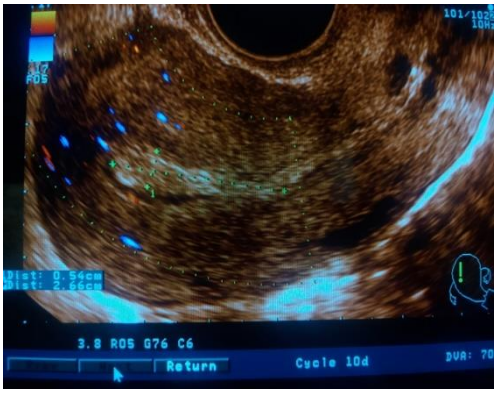

Figure 3. Sagittal section of the uterus. The absence of color Doppler flow within endometrium.

Figure 4. Enlarged image of the endometrium.

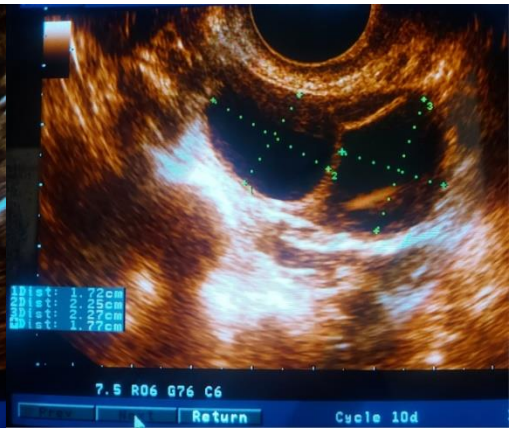

Figure 5. Appearance of the left ovary.

In patient with hyperplasia, ultrasound demonstrates thickening of the endometrium, which is tipically echogenic, homogeneous, with a well-defined myometrial interface (Bosch et al. 2021, Heremans et al. 2022).

In perimenopause the endometrial thickness does not correlate with histological changes, as it does in menopause when the endometrial thickness must be below 4 mm (Pöder 2017, Throprasert et al. 2023).

The patient was recommended to undergo a transvaginal ultrasound after her next menstruation to check the appearance of the endometrium. The next menstruation occurred at 28 days and lasted 7 days. The patient refused any treatment.

CONCLUSIONS

The perimenopausal period is a difficult stage in a woman's life, characterized by irregular menstrual cycles, periods of amenorrhea or metrorrhagia, all due to the hormonal imbalance between estrogen and progesterone.

The depletion of the ovarian reserve and the lack of ovulation determine progesterone deficiency and the occurrence of the dysfunctional uterine bleeding.

Hormonal imbalance is what causes the proliferation of the endometrium under the influence of the estrogen hormones, the secretory changes no longer being possible, due to the lack of progesterone. Hormonal imbalance can be confirmed by performing laboratory tests that determine blood levels of estradiol and progesterone. Progesterone treatment can replace the natural deficiency util the ovarian secretion of estrogen ceases.

Any metrorrhagia occuring after the age of 45 must be followed by histopathological examination of the endometrium, which is the only method that can exclude malignant transformation.

Ultrasound scan is mandatory, because it can evaluate the appearance and the thickness of the endometrium, detect uterine leiomyomas or tumors, but it is a method that only guides the diagnosis in a clinical context.

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