

Case Report

Abnormal uterine bleeding and severe anemia cause the life-threatening condition

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Abstract

The World Health Organisation (WHO) defines anemia as a global public health problem. It is a medical condition in which the number of red blood cells or the hemoglobin concentration within them is below the physiological range. We present a case of a 40-year-old woman with Abnormal Uterine Bleeding (AUB) accompanied by malaise, weakness, and tachycardia. The patient reported heavy menstrual bleeding for the past 14 days. Speculum examination revealed that the bleeding was from the uterus. There were no pathological findings during a gynecological and transvaginal ultrasound examination. A complete blood count performed at the time of her arrival showed a low hemoglobin level of 24 g/L, a low hematocrit level of 7,4%, a mean corpuscular volume of 98,7 fL and a number of red blood cells $0,75 \times 10^{12}/L$. Due to the severity of the anemia, she was given 6 units of red blood cell transfusion, 2 fresh frozen plasmas and tranexamic acid accompanied with calcium carbonate. The curettage was performed. The pathohistological finding was endometrium in proliferation. Afterward, the hemoglobin level increased to 90 g/L. Their past medical history revealed that she abused alcohol. On an abdominal CT scan, Alcohol-Related Liver Disease (ARLD) was confirmed. We should keep in mind that coagulopathy could be the underlying cause of abnormal uterine bleeding and that anemia must be analyzed for successful treatment. A multidisciplinary approach to anemia caused by AUB is required in cases of severe anemia.

Introduction

The World Health Organisation (WHO) defines anemia as a public health problem in which the number of red blood cells or the hemoglobin concentration within them is below the physiological range [1,2]. In 2019, global anemia prevalence among women of reproductive age was 29,9%, affecting 29,6% of non-pregnant women and 36,5% of pregnant women [1]. Various aetiologies can be divided into increased iron demand, decreased iron intake, decreased iron absorption and chronic blood loss such as uterine bleeding [2,3]. Abnormal Uterine Bleeding (AUB) is defined as bleeding from the uterine body that is abnormal in its volume, frequency, regularity, or duration in non-pregnant women [3,4]. If it is sufficient enough in quantity to require immediate intervention, then is acute [3]. Using the acronym PLAMCOEIN: Adenomyosis, Leiomyoma, Malignancy and Hyperplasia, Coagulopathy, Ovulatory dysfunction, Endometrial, Iatrogenic and Not

otherwise classified, we can do initial screening [3,4]. It can be manifested with symptoms of weakness, malaise, fatigue, shortness of breath, tachycardia and skin pallor [1-4].

Case report

We present a case of a 40-year-old woman, gravida 3, para 3, with abnormal uterine bleeding (AUB) accompanied by malaise, weakness and tachycardia. The patient had no past medical history of any gynecological disorders. She reported heavy menstrual bleeding for the last 14 days. On clinical examination, the patient appeared oriented and with pale skin. Her vitals were 100/60 mmHg, heart rate 108/min and respiratory rate 16/min. The abdomen was soft and non-tender to palpation. Speculum examination revealed bleeding from the uterus. There were no other pathological findings during a gynecological and transvaginal ultrasound examination. A complete blood count performed at the time of her arrival showed low hemoglobin of 24 g/L, a low

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hematocrit of 7,4%, a mean corpuscular volume of 98,7 fL and a number of red blood cells $0,75 \times 10^{12}/L$. The patient's international normalized ratio was 1,7, prothrombin was 0,45 and fibrinogen 1,4. Due to the severity of the anemia, she was given 6 units of red blood cell transfusion, 2 fresh frozen plasmas and 1g of tranexamic acid combined with two ampoules of calcium carbonate. The curettage was performed. The pathohistological finding was endometrium in proliferation. Afterward, the hemoglobin level increased to 90 g/L. Medical history reported alcohol abuse. On an abdominal CT scan, alcohol-related liver disease (ARLD) was confirmed. The liver plays a key role in blood coagulation and is involved in both primary and secondary hemostasis.

Discussion

Alcohol-related liver disease is liver damage caused by alcohol abuse. Some control studies have shown a positive correlation between ≥ 2 alcoholic beverages per day and elevated oestradiol and testosterone concentrations. It is believed to be the result of metabolic pathways which change hepatic redox states [5,6]. In our case, the patient blood tests two months before she came into our Emergency Department were within the physiological range. In parallel with the consumption of large amounts of alcoholic beverages, that month she had menorrhagia. The liver plays a central role in the clotting process. Already damaged liver has decreased synthesis of clotting and inhibitor factors, platelet defects, or accelerated intravascular coagulation. Tranexamic acid inhibits the conversion of plasminogen to plasmin and therefore promotes blood clotting. Although Food and Drug Administration (FDA) warned that patients who were given tranexamic acid have an increased risk of venous thrombosis, in Great Britain and Sweden was not found statistically significant increase [7,8]. Anemia which is associated with AUB can have thrombosis as a side effect, as a result of reactive thrombocytosis. Those side effects are more common than ones caused by medical treatment [8]. In patients with a known primary etiology of AUB (structural lesions, infections, bleeding caused by haematological side) treating causes before starting other therapy may correct AUB or hasten upcoming treatment. Treatment of patients with idiopathic etiology is mostly started with an estrogen-progestin contraceptive or 52 mg levonorgestrel-releasing intrauterine device (LNG 52 mg IUD) [3,4]. Decidual reaction and thinning of endometrial surface associated with thin-walled vesicles is a response of the endometrium to progesterone and it becomes stable over 6 months. Profound, uniform suppression of endometrium development within 1 month is a response to LNG-IUD [3,4].

For the vast majority of medical management, a multi-dose regimen of combined oral contraceptives or oral progestins and tranexamic acid is the first treatment line [3,4]. Surgical management is suitable for clinically unstable patients who have failed to respond to medical management [3,4]. The main goals of AUB management are correct primary etiology and treatment and to prevent recurrent vaginal bleeding and the development of uterine cancer [4].

Conclusion

We should keep in mind that coagulopathy could be the underlying cause of abnormal uterine bleeding and that anemia must be analyzed for successful treatment. A multidisciplinary approach to anemia caused by AUB is sometimes required in cases of severe anemia. In complicated and unclear cases like this, it is advisable to cooperate with another specialist, such as anesthesiologists, gastroenterologists and hepatologists.

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