

## A Rare Reason of Abnormal Uterine Bleeding

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Abnormal uterine bleeding (AUB) is the abnormal duration of menstrual cycles or unexpected amount of vaginal bleeding. This condition is one of the common gynecologic complaints that includes one-third of outpatient visits in gynecologic clinics (1). Abnormal uterine bleeding (AUB) can be caused by many systemic conditions and local disorders such as anatomical disorders, anovulatory cycles, iatrogenic conditions, inflammation or infection, neoplastic diseases and systemic bleeding disorders (hereditary or acquired) (2). Patients' age (reproductive or non-reproductive) can also affect the differential diagnosis. Acute myeloid leukemia (AML), as the most common acute leukemia in adults, may characterize by abnormal uterine bleeding too (3). A detailed history of the patient in addition to physical examination can help the physician to limit the differential diagnosis and make decision on the final diagnosis. Laboratory testing and imaging studies can improve the diagnosis through demonstrating patient's hematologic and coagulation profiles as well as structural and anatomical disorders. Although human chorionic gonadotropin ( $\beta$ -hCG) titer, complete blood cell count and hemoglobin level determination are the earliest laboratory evaluations in the management of all types of acute vaginal bleeding, additional tests may be required to assess the probability of rare causes (4,5). The patient presented below is one of the complicated and life threatening cases of abnormal uterine bleeding.

A twenty-eight-year-old woman with extreme fatigue and prolonged vaginal bleeding about 30 days referred to the outpatient gynecologic clinic. She had no history of abnormal systemic or uterine bleeding in the past. The menses were normal and regular. She had the usual amount of vaginal bleeding during her delivery. There was the only history of uterine myoma resection with subsequent gonadotropin releasing hormone (GnRH) agonist injection about two years before her recent problem. She remained asymptomatic two years after surgery and referred to the clinic, because of new onset abnormal vaginal bleeding. On physical

examination, she was really pale and ill. She had vaginal bleeding with reduced pulse pressure, tachycardia and orthostatic changes. She hospitalized immediately, and primary laboratory evaluations showed severe anemia (Hemoglobin: 5.4). Complete laboratory evaluations and imaging studies were performed after primary resuscitation. According to imaging studies, excessive free fluid was reported in the pelvic and abdominal cavity with a 33\*35 mm hyperechoic mass next to the left ovary with the probability of hemorrhagic ovarian cyst and endometrial thickness of 18 mm.  $\beta$ -hCG titer was negative. An explorative laparotomy with presumptive diagnosis of the ruptured hemorrhagic ovarian cyst was performed on the patient. There was a lot of blood in the peritoneal cavity, and multiple adhesion bands in pelvic and abdominal cavity caused unsatisfactory results of operation. According to further laboratory tests, a distinct coagulopathy was detected as below: PT: 18, PTT: 54, PLT: 36000. Peripheral blood smear test showed a lot of blasts cells in favor of bone marrow infiltration, and AML induced coagulopathy was the most probable diagnosis (Figure 1). The patient's condition was worsened, and anuria with no response to conservative therapy, hemorrhagic pulmonary edema, and decreased consciousness appeared. She was really too bad for performing any specific diagnostic or curative procedure for AML. Eventually, she died after 6 days for resistant coagulopathy and un-reversible end-organ damage.

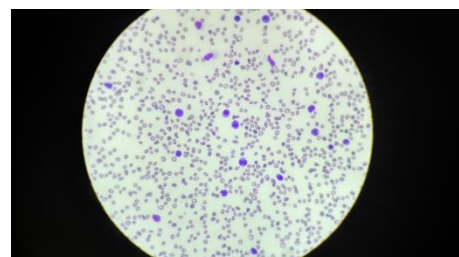


Figure 1. Peripheral blood smear

Although further evaluations, showed more

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information about the case; but, the critical condition of the patient affected our medical management. However, the severity of bleeding and unstable hemodynamic condition of the patient, in addition to imaging results in hemorrhagic ovarian cyst made us perform an emergency explorative surgery instead of further pre-operative hematologic or oncologic evaluation. Finally, it may be concluded, severe anemia in the presence of leukocytosis is an obvious symptom in hemato-oncologic evaluation throughout reproductive ages in abnormal uterine bleeding (6). Patients with acute myeloid leukemia are generally characterized by complications that arise due to pancytopenia and patients have different symptomatic thresholds to seek medical attention. However, systemic coagulopathy should be considered in differential diagnosis of abnormal uterine bleeding even in critical conditions.

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