

A Case of Rupture Ectopic Pregnancy Diagnosed 10 Days After Hospital Stay In A 22-Year-Old Girl Presented With Symptoms of Anemia Without Abdominal Pain and Amenorrhea: Lessons Learned

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CASE SUMMARY

A 22-year-old unmarried Myanmar girl presented with symptoms of anemia: fatigue, exertional dyspnea and fainting attack. There was no abdominal pain or amenorrhea. The hemodynamic status was stable except sinus tachycardia. Anemia was refractory to blood transfusion; thus, the differential diagnosis were autoimmune hemolytic anemia and occult blood loss. Blood film, bone marrow examination, Comb tests, Anti-nuclear antibody profile and PNH screen tests excluded autoimmune hemolytic anemia. Presence of fibrous strands in free fluids of abdominal cavity with normal uterus and ovary mislead the diagnosis of tuberculosis. Blood tap in ascitic fluid aspiration made all the answer- rupture ectopic pregnancy. The symptoms resolved after right salpingectomy and blood transfusion. The clerking on sexual exposure to Myanmar single is not acceptable in our culture; it is regarded as “social insult”. Atypical presentation and not asking sexual history caused delay in diagnosis; diagnosed 10 days after hospital stay. She recovered uneventfully.

KEYWORDS: refractory anemia, occult blood loss, ascites, rupture ectopic pregnancy, salpingectomy, clerking, delay diagnosis

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INTRODUCTION/BACKGROUND

Ectopic pregnancy is a pregnancy that the fertilized ovum implantation outside of the endometrium of the uterus; the most common site is in the fallopian tube. Rupture ectopic pregnancy is a potentially life-threatening condition; it occurs in up to 2% of all pregnancies (Taran et al., 2015). It is the leading cause of maternal mortality in the first trimester; It accounts for up to 6% of all pregnancy-associated deaths (Babu et al., 2014).

The typical presentation is severe abdominal pain, vaginal bleeding and amenorrhea. There is no substitute for

High index of clinical suspicion. An elevated HCG level above the discriminatory zone (2000 mIU/ml) with an empty uterus on a transvaginal ultrasound is essential for confirming the diagnosis of ectopic pregnancy. However, atypical presentation makes the diagnosis difficult even with advanced diagnostic techniques. Over 10% of cases of ectopic pregnancy were still missed the diagnosis (Al-Jabri et al., 2010).

Early diagnosis with amenorrhea, abdominal pain, high HCG and ultrasound finding of floating fetus of 13

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weeks old in peritoneal cavity was reported (Gari et al., 2020). In multiple congenital abnormality, unicornuate uterus, accompanied by the undescended tube and ovary with double inferior vena cava (Jang & Kim, 2020)

Various differential diagnosis of abdominal pain in a fertile aged are urinary tract infection, appendicitis, spontaneous abortion, early pregnancy, pelvic inflammatory disease, ovarian cyst and/or torsion, and tubo-ovarian abscess. There were several reports on it. The presentation without abdominal pain was very rare. Also, normal hemodynamic status i.e., without hypovolemic shock was uncommon. Anemia in woman is common; and, uterus is the major site of blood loss irrespective of age. The etiology of hemorrhage from uterus varies with pregnancy and labor; abortion, antepartum hemorrhage, postpartum hemorrhage. And, most of them are overt. Thus, the clinicians rarely miss.

CLINICAL PRESENTATION

A 22-year-old girl has been working as a nursing officer in COVID-19 treatment center; and, she was well till 3 days prior to hospitalization. She had tightness of chest and abdominal discomfort for 3 days; she could not sleep and she had to sit up for whole night. There was no history of nausea, vomiting, cough or fever. However, she had loose motion 3 times/ day (100-150 cc/motion) for same duration; she felt better after toileting. She also felt giddiness on walking; she was tired, fatigue and, she had exertional dyspnea. Then, she fainted in the toilet. Thus, she was brought to hospital on 17.02.2022.

She was single, unmarried. Her periods were regular (3/28-day cycle); and last menstrual period was 26.01.22. She had regular period in December 2021. There was no history of amenorrhoea. She said her period for February was early; menorrhagia for 10 days.

On arrival, her blood pressure was 110/70 mmHg; pulse was 110/min. Her usual pulse was 80/min. She had marked pallor. Abdomen was soft and non-tender; no organomegaly. Clinically no free fluid was detected. Lungs were clear. Initial impression was severe anaemia which could not be explained by menorrhagia; symptoms were due to severe anaemia. The underlying cause of unexplained anaemia without organomegaly were acquired hemolytic anaemia, lymphoma, PNH.

Blood for full blood count revealed as follows: hemoglobin 5 gm%, Total WBC 9.2×10^9 /L (Neutrophil 78%, Lymphocyte 17%, Monocyte 4%) and platelets counts 248×10^9 /L. Blood film showed normochromic normocytic anaemia, reticulocytes, neutrophils in band form, lymphocyte, lymphoblast and platelets. (Figure 1 & 2) Bone marrow examination done on 22.2.22 revealed normal active marrow. There was no abnormal cells or giant cells. (Figure 3)

Thus, auto-immune hemolytic anaemia, and lymphoma were possibilities though there was no

organomegaly. ENA (extractable nuclear antigen) profile was negative. Both direct and indirect Coomb's test was negative. PNH screening was negative. Dengue (IgG & M) was negative.

The biochemical profile was normal. Blood urea was 13.8 mg/dl; serum creatinine was 0.47 mg/dl. Random blood sugar was 127 mg/dl. CXR was normal. USG abdomen (18.2.22) showed minimal ascites; uterus and ovaries were normal. Blood transfusion (6 units) was done after bone marrow examination.

In the hospital, anemia was refractory; sinus tachycardia was persistent. And, hemoglobin level did not increase after blood transfusion. The abdomen became more distended; thus, USG (abd and pelvic) was repeated on (28.2.22). It showed massive ascites; the possibility of tuberculous abdomen was considered as there were fibrous strands in the free fluids. Therefore, paracentesis was done for diagnostic reason.

Tapping of ascitic fluids revealed blood. Therefore, possibility of rupture ectopic pregnancy was considered. Thus, urine human chorionic gonadotropin was done; it was positive. The Obstetrics and Gynecology on-call was consulted.

Laparotomy was done urgently; massive hemoperitoneum (approximately 4,000 cc of old blood) was seen. Multiple cysts were seen in right ovary. Evacuation of blood and salpingectomy for right tubal pregnancy was done. Uterus was normal. Seven units of whole blood and fresh frozen plasma was transfused during surgery; two units after surgery. (Total 15 units). In post-operative period, heart rate low (35/min); and, blood pressure rose to 160/100 mmHg. They were back to normal after 48 hours.

Menstrual history and sexual exposure history was reviewed again after surgery. Last sexual exposure was 26.12.01; the partner was away on 06.01.22. The symptoms began 3 weeks after exposure. She admitted that she was having menorrhagia 10 days. The periods were regular; no amenorrhoea. Her hemoglobin became 12 gm/dl. HCG-beta 1 (1.3.22) was high 54.61 mIU/ml (0-1.0).

DISCUSSION

Initial presentation was mainly due to anemia: fatigue, giddiness, fainting attack and exertional dyspnea. Generally, the commonest cause of anemia in woman is from uterus: menstrual loss and loss related to pregnancy. All are revealed hemorrhage; thus, no one can miss. The improvement in clinical features (pallor, tachycardia and anemic symptoms) is quite obvious after blood transfusion. If there is no improvement after correction of anemia, the possibilities are ongoing loss in hidden area or ongoing intravascular hemolysis.

In this case, intravascular hemolysis was less possible as there was no jaundice. Blood film did not show features of hemolysis like target cells, fragmented cells, and

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reticulocytes. The ongoing loss in hidden area, peritoneum, was less obvious initially. Therefore, we did miss the diagnosis initially.

Moreover, there was no features of peritonism throughout the hospital stay. It was contrary to general rule; blood in peritoneum usually irritates peritoneal membrane. Almost all cases of ectopic pregnancy cause acute onset of severe abdomen pain; thus, it has to be differentiated from acute appendicitis, pancreatitis, renal colic, and pelvic inflammatory disease. One reported case of ectopic pregnancy came to emergency department with severe chest pain (Dichter et al., 2017). A case of silent rupture of ectopic pregnancy in a woman with spinal cord injury was reported by (Rawal et al., 2008); the patient neither complained of abdominal pain nor had peritonism (Rawal et al., 2008). A case of rupture omental ectopic pregnancy with massive hemoperitoneum presented as painless, occult bleeding and hypotension (Van Antwerp et al., 2021). This is the second reason for not making diagnosis early in our case.

In Myanmar culture, the question on sexual exposure to single woman is considered as very rude. The patient herself and her parents may slap on you if the doctor ask such question. All the health care personnel are reluctant to clerk amenorrhea history, sexual history and self-induction history for abortion. This is the biggest lesson; thus, we want share our weakness.

A retrospective study which included over 230 cases showed that none of the patient presented before 4weeks of gestation. Nearly 70% of cases presented between 4-7weeks and the rest beyond 7week (Babu et al., 2014). In this case the gestational period was 3 weeks according to last sexual contact; therefore, it was a very rare case.

Typically, the classical features of acute ectopic pregnancy are history of short period of amenorrhea or missed period followed by sudden onset of severe abdominal pain, severe anemia and hypovolemic shock. A retrospective study highlighted the prevalence of shock in 230 cases; nearly 50% of cases presented with shock (Babu et al., 2014). This patient had just abdominal discomfort, no pain. And, the blood pressure was normal. Thus, we could not hit the diagnosis.

The hard signs in this patient were refractory anemia and tachycardia. Therefore, rupture ectopic pregnancy should be considered in woman of reproductive age has refractory anemia and tachycardia. There were few case reports on chronic ectopic pregnancy presented with refractory anemia and tachycardia. This case was acute ectopic pregnancy; another reason for reporting.

The amount of fluid in peritoneum was minimal initially; and, it became progressive over 10 days. Having strands in free fluids in ultrasonogram was misleading; because it could be seen in tuberculosis of abdomen. Paracentesis should not be delay as we can get diagnosis early.

In this patient, the duration of the last sexual exposure to onset of symptoms is 3 weeks; short interval. It can be explained that the exact timing for implantation of fertilized ovum is difficult to guess.

Furthermore, the patient did not have amenorrhea; she had menorrhagia vaginal bleeding for 10 days. It may be the sign of miscarriage. A 24-year-old female with long lasting vaginal bleeding of 29 days duration due to bilateral tubal pregnancy was reported (Xu, 2018).

The diagnosis of rupture ectopic pregnancy is supportive if blood β HCG level is high. In this case it was 54 times higher.

The uterus was normal in laparotomy in this case. Women with anatomic abnormalities, congenital or acquired, may impair the fertilized ovum's ability to implant in the uterus are at risk for ectopic pregnancy. Moreover, those with previous tubal surgery (even tubal ligation), prior ectopic pregnancy, intrauterine device use, and prior pelvic inflammatory diseases predispose to extrauterine implantation of fertilized ovum. Additional risk factors include infertility or infertility treatments, advanced maternal age, smoking, multiple sexual partners, and prior abdominal/pelvic surgeries. While risk factors are important to consider, a lack them does not rule out ectopic pregnancy. This patient did not have risk factor; it supported the finding where half of patients with ectopic pregnancy had no known risk factors.

CONCLUSION

A high index of suspicion on rupture ectopic pregnancy is necessary in all women of reproductive age presenting with unexplained anemia and tachycardia. The typical presentation, abdominal pain, amenorrhea and shock may not present in all cases. Do not reluctant to ask sexual exposure history in single unmarried woman; however, it should be clerked in polite ways in Myanmar culture. Tapping of ascitic fluids should not be delayed as it can give diagnosis early.

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Declaration of conflict of interest

The authors declared no potential conflicts of interests with respect to authorship and publication of this article.

ETHICAL APPROVAL

Our institution does not require ethical approval for reporting cases.

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INFORMED CONSENT

The informed consent for publication in this article was obtained from patient.

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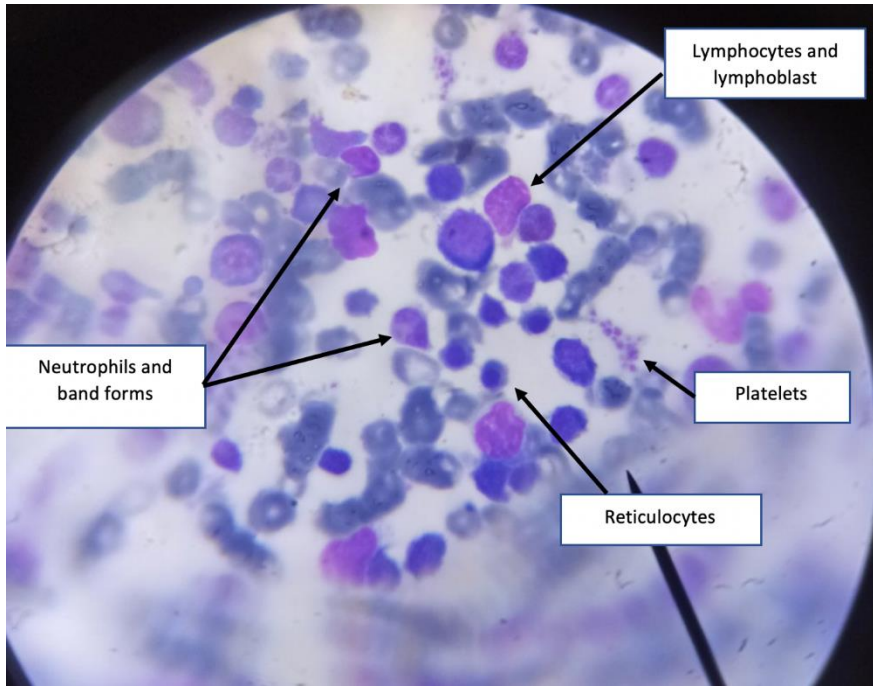


FIGURE (1). Peripheral blood film showing reticulocytes, neutrophils in band form and platelets

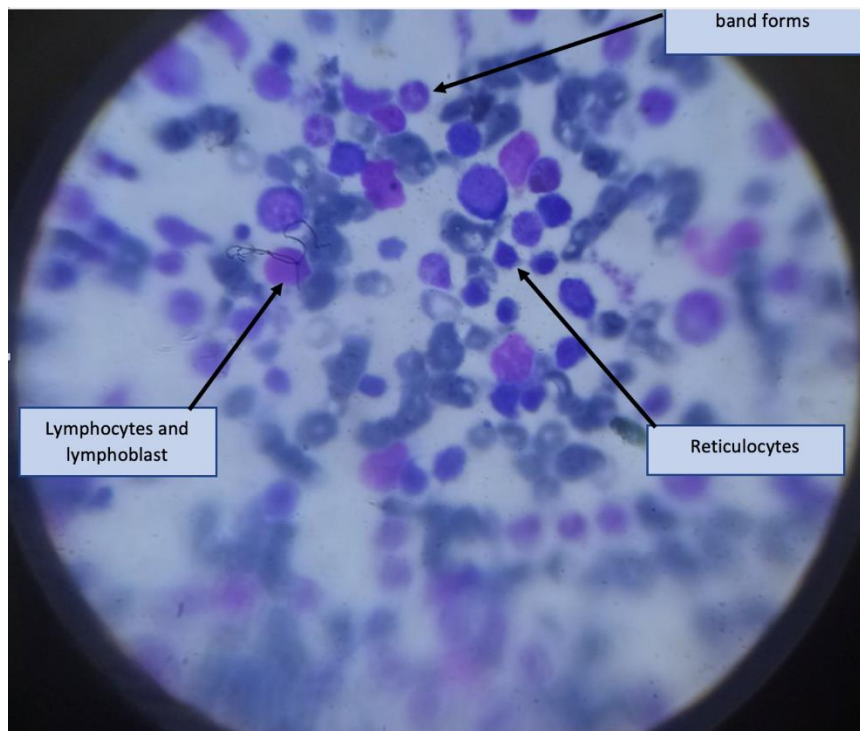


FIGURE (2) Peripheral blood film showing reticulocytes, neutrophils in band form, lymphocytes and lymphoblast

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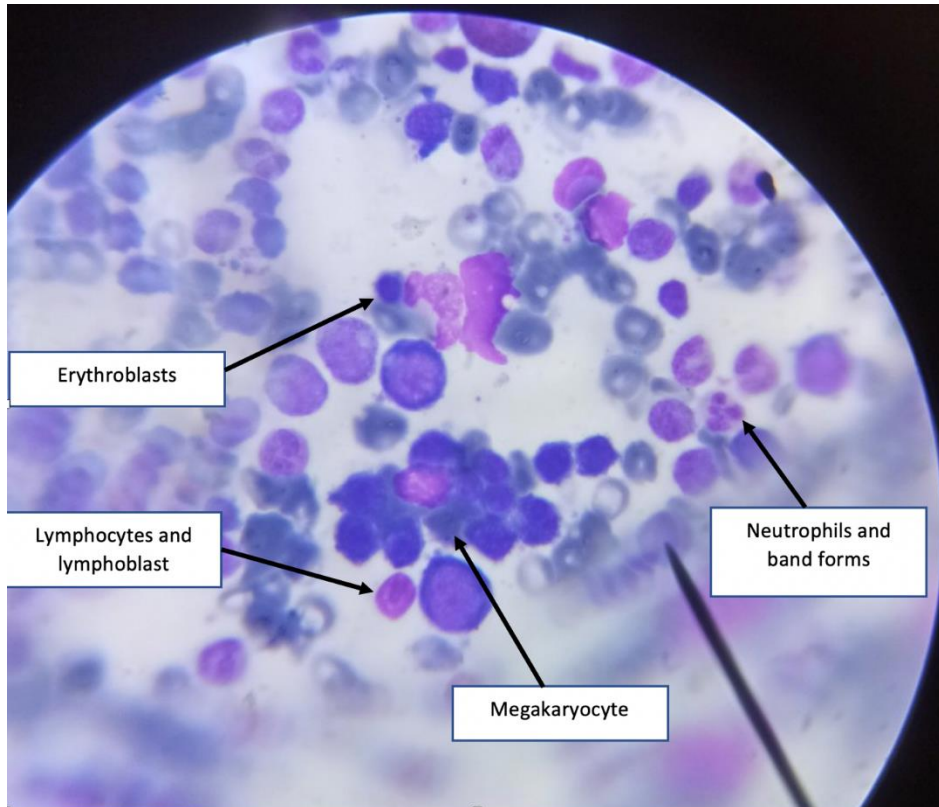


Figure (3) Bone marrow reveals normal bone marrow, no abnormal cells or giant cells

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Table (1) Serial changes in laboratory parameters

	17.2.22	18.2.22	19.2.22	20.2.22	22.2.22	23.2.22	24.2.22	25.4.22	28.4.22	23.3.22
Hb	5	5.1	9	5.8	5.7	Right Salpingectomy and peritoneum toilet done on 5:25 pm (RIGHT TUBAL ECTOPIC PREGNENCY AND RUPTURE ECTOPIC PREGNENCY AND MASSIVE HAEMOPERITONEUM) done by Lt Col Tin Tun Oo	9.3	11	12	12
RBC	1.6	1.64	3.15	1.94	2		3.88	4.61	4.75	4.92
Hct %	16.4	15.5	30.9	19.2	19.3		34.1	41.5	43.4	35.2
MCV	102	94.5	98	99	97		88	90	92	72
MCHC	30.7	32.9	29	30	29.6		27.2	27.5	27.7	33.9
WBC	9.2	4.88	6.8	8.7	8.3		14.5	11	8.7	5.2
Plt	248	233	230	308	211		164	219	277	240
Neut/Gra	7.2	2.92	5.8	7.6	5.1		13.4	9.6	6.3	2.7
Lymph	1.6	1.5	0.9	0.9	2.5		0.7	1	1.9	2.2
Mono	0.4	0.4	0.3	0.2	0.7		0.4	0.4	0.5	0.3
Rect					0.1515 (7.18 %)					
ESR	15	35						5		
CRP					0.173			6.59	1.208	
D dimer					7.73					
Ferritin					321.2ng/ml (Normal)					
PT/INR					13.8/1.07			16.9/1.35		
APTT					21.5		27.1			
Creatinine	0.47	0.46			0.42		0.51	0.54	0.54	
FT4								16.23		
TSH								0.707		