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CASE REPORT

Anaesthesia management of rupture ectopic pregnancy with severe anaemia and state of shock — A case report

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Abstract

Management of a patient with severe anemia is an important anaesthesia challenge. We have reported a case of a 24 year old female who presented with a ruptured extra uterine pregnancy. Patient was having a severe anemia. The post-operative period was uneventful and patient was discharged 8 days after surgery. Here we are discussing a management and outcome of this case which was performed under general anesthesia with massive blood transfusion. The duration of surgery was 1 hour 30 min and haemostasis was achieved in this period as well.

Keywords: Severe anemia; Ectopic pregnancy; Hypovolemic shock; Massive blood transfusion

Introduction

Ectopic pregnancy is a common life threatening emergency and leading cause to mortality in first trimester[(1)]. Asia incidence 0.6%-1.3% based on total number of hospital deliveries[(2)]. About 95% of ectopic pregnancies are located in one of the fallopian tubes, and most ectopic implantation is found in the ampullary region of the fallopian tube while the rare sites of implantation are the cervix, ovary and abdominal cavity[(3)].

Case report

Details: A 24-Year-old female, (American Society of Anaesthesiologist physical status II (E)), case of 3 gravida 1 living 1 abortion, not registered for antenatal check-up elsewhere, presented to the emergency department with history of amenorrhea of 6 weeks with severe abdominal pain. Patient had tachycardia with low blood pressure and severe generalised pallor was present. She denied history of alcohol and smoking,

Urine pregnancy test was positive. USG abdomen revealed normal ovaries, no gestational sac seen in the uterus with moderate to severe fluid collection seen in abdomen and pelvis suspecting tubal pregnancy. Patients was immediately taken up for emergency exploratory laprotomy for suspected ruptured ectopic pregnancy with hemoperitoneum.

Pre-anaesthetic evaluation of case

On preanaesthetic evaluation, patient was in obvious distress. She was 158 inches tall and weighed 50kg with pulse rate of 150/ min, regular in rhythm, of low volume. Blood pressure was not recordable initially. Resuscitation started with I.V colloid with 2 points of haemaceal. Later the blood pressure was 86/66 mmHg which was recorded from right upper arm in supine position. On airway examination she had adequate mouth opening, no loose teeth, caps or crowns and mallampatti grading II. Pre-operative investigation revealed haemoglobin of 2.7 gm/dL, total blood count 9300 cells/cumm, platelet count 80,000/cumm and prothrombin time 20 sec and international normalised ratio is 1.6.

Planning and Procedures performed

We had ordered 4 units of packed cells and 4 units of fresh frozen plasma. General anaesthesia was planned for the exploratory laparotomy as the patient was in a state of shock. Informed Consent was taken after explaining to the patient's attender (spouse) regarding the risk of bleeding, blood transfusion and general anesthesia related complications. Two wide bore 18 G intravenous lines secured. Patient was taken to operation room and standard ASA monitors (Ecg, Noninvasive BP,Spo2,RR,PR)applied and patients vitals noted heart rate 150beats per min, Respiratory rate 16 per min ,blood pressure was 80/60mmHg,Ecg was showing normal sinus tachycardia,Spo2 showing 98%@room air. The patient was pre-medicated with I.v Inj Ranitidine 50mg, inj Metaclopromide 10mg, inj ondensentron , Induced with nj. Glycopyrolate 0.2 mg and Inj Fentanyl 50 microgram. Rapid Sequence intubation was done with Inj propofol 60 mg and Inj Succinylcholine 100 mcg with cuffed endotracheal tube 7.0 F and fixed on mark 21 cm after confirmation of bilateral air entry. Anesthesia was maintained with Isoflurane 0.2% and intermittent boluses of 25mcg fentanyl. Atracurium 0.5 mg /kg was used for neuromuscular blockade.

Intraoperatively 1500 ml blood was drained from peritoneal cavity there was left tubal pregnancy in ampullary region, left salpingectomy was performed, injection tranexamic acid 500mg was given I. V. to maintain hemodynamic stability, patient was managed with vasopressors like Inj Ephedrine 0.1mg /kg and 2 points (haemaceal) colloids. Massive blood transfussion started with 3 units of packed cell volume and 2 units of fresh frozen plasma. Hypothermia was prevented using intravenous fluid warmer.

Fig 1. Left ampullary

Fig 2. Ruptured left fallopian tube region of ruptured tube

Fig 3. Blood clots

Fig 4. Fetus(6 week) with ruptured part of fallopian tube

Total duration of surgery was 90 minutes which was uneventful. On ex-tubation patient was hemodynamically stable with blood pressure 100/70mm hg, spo2 98%and heart rate -100bpm was shifted to ICU for further monitoring where there 1 point PRBC and 2 point of FFP, 2 point of platelets were transfused next day the patients report were hb 9g/dl, PT, APTT and INR were in normal limit and she was discharged after 8 days.

Discussion

Several studies have shown that laparotomy was the operation of choice in women presenting in shock[4–6]. However, women who had an un-ruptured ectopic pregnancy and were haemodynamically stable would have benefited from laparoscopic surgical intervention. Malavika et al.[7] reported that the patients with an ectopic pregnancy who were haemodynamically stable that underwent the laparoscopic procedure had earlier post-operative recovery and were discharged earlier from the hospital.

Conclusion

Anaesthetic implication of anemia in pregnancy are based on the understanding of normal compensatory mechanisms to optimize tissue oxygenation. The main aim is to maintain an optimum balance between the compensatory mechanism and adequate tissue oxygenation in this patient. Monitoring should aim at assessing the adequacy of perfusion and oxygenation and the magnitude of ongoing blood losses. Deleterious effects of chronic tissue hypoxemia along with threat of major blood losses in the pre-operative period need to be anticipated and treated adequately.

Therefore, teamwork is required between the surgeon, the attending anaesthetist and the blood transfusion service. The attending anaesthetist should be highly skilled to manage the complications and prevent mortality.

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