Bleeding in Early Pregnancy

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MJAFI 2007; 63 : 64-66

Key Words : Ectopic pregnancy; Abortion; Vesicular mole

Bleeding in early pregnancy may be life threatening. A small amount of bleeding or spotting per vaginum which may be dismissed as trivial can be catastrophic. Hence, it is mandatory for all health care providers to understand the condition and aim at an early diagnosis.

There are three important causes of bleeding in early pregnancy namely abortion, ectopic pregnancy and hydatidiform mole in the order of frequency of their occurrence. However of the three, ectopic pregnancy keeps best of the clinicians perplexed and may prove fatal earlier and more often than abortion and hydatidiform mole.

Ectopic Pregnancy

Ectopic pregnancy occurs in about 1% of all pregnancies and the incidence tends to rise with increasing incidence of pelvic inflammatory disease (PID) and use of Copper T, although in certain regions a decline in the incidence has been reported [1]. The first differential diagnosis in any lady of reproductive age group with history of amenorrhoea, pain abdomen and bleeding per vaginum should be ectopic pregnancy. Although abortion may have similar presentation, but the blood loss is visible externally and the patient's general condition is commensurate with the visible blood loss. In contrast, external visible bleeding is scanty in ectopic pregnancy and the diagnosis is often late, which increases the mortality rate [2].

Predisposing factors for ectopic pregnancy

The index of suspicion for ectopic pregnancy should be high if there is history of pelvic inflammatory disease, previous ectopic pregnancy, repeated spontaneous or induced abortion, failed Copper T ie. pregnancy with Copper T in situ, failed tubectomy, pregnancy following tuboplasty operation and assisted reproductive techniques (ART).

Clinical features

Amenorrhoea is present in about 75% of the cases and the history of missing periods is not elicited in the remaining, because some vaginal bleeding appears at the expected time of menses in cases of ectopic pregnancy which the lady mistakes as her normal periods. Thus, in a patient without history of amenorrhoea, the possibility of pregnancy is often not entertained leading to a delay in the diagnosis of ectopic pregnancy. Pain abdomen is variable from colicky, dull aching to piercing and is located usually in the lower abdomen. It is the most consistent symptom of ectopic and is present in all the cases.

Bleeding per vaginum (PV) is usually scanty, brownish and altered which occurs due to withdrawal of hormonal support on rupture or total abortion of ectopic pregnancy. The classical triad in a case of ectopic pregnancy consists of amenorrhoea, pain abdomen and bleeding per vaginum. However, one or more of them may be absent. Bleeding is uterine in origin. The decidual changes occur although to a lesser extent in ectopic pregnancy as they occur in an intrauterine pregnancy. Rarely the bleeding may be excessive when duration of amenorrhoea is more and the entire decidua may be shed as a mould or decidual cast.

Dyspepsia, vomiting and loose motions (which may be due to pelvic hematocoele pressing on the rectum) may often lead to an erroneous diagnosis. It is not unusual to find these patients being treated for gastroenteritis and the possibility of ectopic was not even considered in a significant number of cases.

Syncopal attacks with sudden unexplained episodes of fainting followed by spontaneous recovery should raise a strong suspicion of ectopic pregnancy. The mechanism is probably vagally mediated.

The pelvic findings include severe tenderness in one of the fornices and it may not be possible to palpate an

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adnexal mass in majority due to tenderness. Cervical motion tenderness is present in most. However, it is also present in cases of pelvic inflammatory disease (PID). A boggy mass in the Pouch of Douglas may be suggestive of a pelvic haematocoele.

Diagnosis

The aim of most clinicians should be to pick up these cases early. If patients with high risk factors are kept under observation, all efforts should be made to establish or exclude the diagnosis of ectopic pregnancy. The pregnancy can be confirmed by various biochemical tests including urine pregnancy tests, usually positive within 2 to 5 days of missing the periods and serum beta hCG which can detect pregnancy at 7th post fertilization day i.e. around 21st day of the cycle when serum beta hCG levels reach 5 mIU/ml.

Ultrasonography (USG), especially transvaginal sonography (TVS) may be useful, by locating an irregular heterogenous adnexal mass which may show a gestation sac with a fetal pole and cardiac activity within the tube. USG can also be usefully combined with serum beta hCG levels for an early diagnosis :

- (i) At serum beta hCG levels of 1500 mIU/ml, an intrauterine sac must be visualized by TVS.
- (ii) At serum beta hCG levels of 4500 mIU/ml, an intrauterine sac must be visualised by transabdominal sonography (TAS).

If an intrauterine sac is not visualized with serum beta hCG levels as mentioned above, the diagnosis of an ectopic pregnancy is confirmed. Additionally, in a normal intrauterine pregnancy serum beta hCG levels usually double in 48 hours and minimum acceptable rise is 66% in 48 hours. The possibility of ectopic or missed abortion should be considered, otherwise.

Laparoscopy can be usefully employed for diagnostic as well as therapeutic purpose. Conservative surgery for ectopic pregnancy can be effectively performed in unruptured ectopic pregnancy in the form of salpingostomy and salpingotomy.

Management

Immediate resuscitative measures in the form of intravenous (IV) fluids and blood transfusion are important in case of ruptured ectopic pregnancy, where the patient is likely to be in hypovolemic shock. Urinary output can be measured to guide the requirement of IV fluids with monitoring of vital parameters.

Surgical management can be radical in the form of salpingectomy or conservative with salpingostomy, salpingotomy or resection and end to end anastomosis.

Conservative surgery offers the advantage of improved fertility [3], although there is a marginal

increase in recurrence of ectopic pregnancy. Both these procedures can be performed by laparotomy or laparoscopy. Laparoscopic surgery should be avoided in hemodynamically unstable patients, but it has the advantage of being less invasive, facilitating early return to routine activity.

Medical management can be offered in early unruptured ectopic pregnancy, the most common agent being used is methotrexate. The criteria for medical management are gestation period of less than 6 weeks, tubal mass of less than 3.5 cm in diameter, no cardiac activity, serum beta hCG level should be less than 15,000 mIU/ml and the patient hemodynamically stable. A single dose of injection methotrexate 50 mg/sq m intramuscularly proves to be effective in most [4,5] but it may be repeated in few cases [6]. The advantage is avoiding surgical intervention and the disadvantages include the requirement of follow up and the toxicity of the cytotoxic drug used.

Abortion

Abortion is the commonest cause of bleeding in early pregnancy, in about 10-15% of all pregnancies. All patients present with amenorrhoea and bleeding PV. Some peculiarities of the different types of abortion are discussed below:

Threatened Abortion

There is a minimal detachment of the placenta within the decidua, resulting in vaginal bleeding in the form of spotting or scanty bleed without pain abdomen or risk to the life of the mother. However, poor pregnancy outcome especially intrauterine growth restriction (IUGR) has been reported [7]. Majority of the cases respond well to expectant management [8,9] with bed rest, sedation and progesterone support in early pregnancy in the form of micronised progesterone 100 mg intravaginally twice daily upto 10 – 12 weeks of pregnancy.

Incomplete Abortion

Patient gives history of vaginal bleeding, often with clots with or without a fleshy mass and complains of lower abdominal pain which is mild as compared to pain in an ectopic pregnancy. This should be dealt with as an emergency because bleeding tends to continue and may be severe, along with the risk of infection unless the products of conception are removed by suction and evacuation. Following evacuation administration of injection methyl ergometrine 0.2 mg IV reduces the amount of blood loss. The use of broad spectrum antibiotics reduces the risk of post abortal infection.

Complete Abortion

In these patients the entire products of conception are expelled spontaneously and the bleeding stops after

the uterus contracts. In cases of excessive bleeding, IV fluids and blood transfusion may be required.

Missed Abortion

The fetus is dead but the products are retained within the uterine cavity. It is not an emergency and should be managed by suction and evacuation.

Septic Abortion

Usually occurs following illegal abortion by quacks and unqualified persons. It should be suspected in ill looking patients with bleeding and foul smelling discharge per vaginum, pain lower abdomen with high fever. The management should be aggressive with IV fluids, broad spectrum parenteral antibiotics, evacuation of products of conception. Laparotomy may be required in cases where peritonitis has developed indicating uterine perforation and gut injury.

Vesicular Mole

It is the least common of the three important causes of bleeding in early pregnancy occurring in about 0.1% of all pregnancies. Usually it is not life threatening except for rare instances of excessive uterine bleeding spontaneously or during evacuation. Rarely, a perforating mole may lead to intraperitoneal haemorrhage, necessitating exploratory laparotomy.

It presents with excessive nausea and vomiting in the first trimester, scanty vaginal bleeding and occasional passage of grape like vesicles per vaginum. On examination uterus may be larger than the period of gestation with anemia and preeclampsia. The features of thyrotoxicosis may be seen rarely [10]. Ultrasonography shows absence of fetus and "Snow Storm Appearance" due to multiple fluid filled vesicles, which is diagnostic.

Management includes suction and evacuation and follow up to detect persistent trophoblastic disease and

malignant conversion into gestational trophoblastic tumor (GTT). If the beta hCG level fail to fall to normal, plateau above normal, rise after initial fall or there is evidence of local metastasis to vagina or distant metastasis to liver, and brain, chemotherapy in the form of methotrexate is instituted.

Conflicts of Interest

None identified

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