

Clinical Note

Importance of follow-up in managing miscarriage

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Vaginal bleeding in the first trimester of pregnancy is a common occurrence. When pregnancy is confirmed biochemically, and there is ultrasound evidence of intrauterine pregnancy, a diagnosis of miscarriage is straightforward in woman with vaginal bleeding, and different management options can be offered. In the absence of such ultrasound evidence, differential diagnosis includes more sinister elements like ectopic pregnancy or gestational trophoblastic disease (GTD).¹ Follow up is of paramount importance to ensure patient safety, and to confirm diagnosis. We would like to emphasize the importance of follow-up through the following case presentation.

A 45-year-old woman, gravida 12 para 8, presented with 8 weeks amenorrhea, and 5 days history of vaginal bleeding to the accident and emergency unit. The bleeding was heavy for 2 days, and then settled. She was not sure if she had passed the products of conception. She had some menstrual-like cramps during the heavy bleeding that subsided. She had an ultrasound a week earlier but was told no fetus seen yet. On presentation, vital signs were stable and urine pregnancy test was positive. Her abdomen was soft, non-tender and uterus was not palpable. Bimanual examination revealed minimal bleeding, a closed cervical os, and there were no palpable adnexal masses or tenderness, and a bulky uterus. Trans-vaginal ultrasound scan (TVS) revealed an endometrial thickness of 26 mm. She was diagnosed as incomplete miscarriage. She received 2 doses of 600 microgram vaginal Misoprostol 24 hours apart. She did not pass much tissue. Twenty-four hours of the second Misoprostol dose, repeat TVS showed 17 mm retained products. She was discharged home with one-week follow-up. At follow-up, the patient reported no abdominal pain and minimum vaginal bleeding, clinical examination revealed an 8 weeks size non-tender uterus and closed cervix. Transvaginal ultrasound showed 3 cm thick heterogeneous endometrium suspicious of molar pregnancy (Figure 1). Serum human chorionic gonadotropin (HCG) level was 128,000 mu/ml, and her metastatic work-up was negative. She underwent uncomplicated suction evacuation and curettage. Histology of the suction evacuation confirmed a complete molar pregnancy. Currently, she is under follow-up and her serum HCG was negative.



Figure 1 - Trans-vaginal ultrasound showing retained products of conception.

Miscarriage happens in 10-15% of clinically recognized pregnancies. When it happens in the first trimester, in over one-third of the cases the uterine contents are expelled completely resulting in a complete abortion, where no further intervention is indicated.¹ For the remaining two-thirds of women where some products of conception are still retained, some sort of management is warranted to prevent potential hemorrhagic and infectious complications from the retained products of conception. Traditionally, these women were managed surgically with dilatation and curettage, or suction evacuation. This can be performed safely and effectively as an office procedure.² It carries small risks related to anesthesia, cervical trauma, uterine perforation, intrauterine adhesions and infection.³ It is recommended for patients with severe hemorrhage, or infection. It is also the choice of women who opt not to wait for spontaneous or medically induced evacuation of the uterus.¹

Medical management is an appropriate option for women who want to avoid surgery, or where the surgical intervention is not feasible due to the lack of surgical skills, or resources. Prostaglandin analogs are the class of medications commonly used for uterine evacuation. Misoprostol is a prostaglandin E1 analog that was approved originally for the prevention of gastric ulcers.⁴ It induces cervical effacement and uterine contractions. Compared to other prostaglandin analogs, Misoprostol is of low cost,⁵ has low incidence of side effects, stable at room temperature, and readily available. It has been used with success rate as high as 96% in evacuating the uterus.⁴ It can be administered orally, sublingually, vaginally, or rectally. The vaginal route is the most commonly used, as it is proven to be the most effective with the least side effects. There are different protocols for the use of Misoprostol to manage miscarriage with different dosing and route of administration, taking in consideration the available local expertise, gestational age, significance of vaginal bleeding, and whether there is a previous uterine scar, or not. It is important that each institution adopts a protocol that suits its population and resources, and follow it systematically.

Possible contraindications for medical management include patient declining the treatment, allergy to the medication, septic abortion, severe hemorrhage, suspicion of ectopic pregnancy, or wanted alive intra-uterine pregnancy, suspicion of molar pregnancy, patient's inability to follow-up, or lack of access to emergency medical services. When there is intra-uterine contraceptive device, it should be removed, and caution should be exercised with patients who have coagulopathy. Expectant management provides an appropriate choice for women who want to wait of spontaneous expulsion of the retained products. The proposed 2-week rule of expectant management, which is based on the finding that women managed expectantly are most likely to miscarry in the first 14 days, and that to wait longer than 2 weeks without intervention does not confer a greater chance of successful resolution.⁶ These women should be counseled regarding the risk of heavy, or prolonged bleeding requiring unplanned intervention.

The correct diagnosis of incomplete/complete miscarriage is the corner stone to offer the appropriate management options. The diagnosis of incomplete/complete miscarriage with a previous ultrasound visualization intrauterine pregnancy and vaginal bleeding can be made clinically based on bimanual examination findings.¹ Measurement of endometrial thickness and the appearance of the midline echo are used to support these diagnoses, but there is no agreement on the appropriate cut-off for endometrial thickness although 15 mm is commonly used.¹ Ultrasound criteria used to define retained products varies between studies. When there is a history suggestive of miscarriage with no previous documentation of intrauterine pregnancy and no products of conception examined, caution should be exercised.⁷ In those circumstances, when ultrasound shows empty uterus, 6% of those women will be found to have ectopic pregnancy. Also, the ultrasound picture is not always helpful to differentiate blood clots from retained products, or molar pregnancy. In all those cases, the importance of close follow-up including clinical assessment, repeat ultrasound and/or serial HCG is of paramount importance.⁶

In view of the maternal risks associated with ectopic pregnancy and molar pregnancy, it is recommended that practitioners consider sending tissue obtained at the time of uterine evacuation (medical or surgical) for histological

examination. This may confirm the diagnosis of miscarriage and help to exclude ectopic pregnancy or GTD.⁷

In conclusion, follow-up after presumed miscarriage is needed for all patients. In patients where tissue is obtained for histology, products of conception must be confirmed by demonstration of chorionic villi. In cases where tissue is not available, follow-up for beta HCG must be obtained to rule out a molar or ectopic pregnancy.

Received 1st September 2011. Accepted 8th February 2012.

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