

## Post Hysterectomy Tubal Ectopic Pregnancy: Unusual, Yet Possible

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### Abstract

**Background:** Ectopic pregnancy after hysterectomy is very rare and infrequent, yet not impossible. It should be kept in mind as differential diagnosis in reproductive-age group women presenting with abdominal pain and bleeding per vagina. Since we usually do not suspect ectopic pregnancy in a woman with history of hysterectomy, the diagnosis may be delayed with potentially life-threatening complications for the patient. This report illustrates the case of a woman with ectopic pregnancy (having no classical symptoms) who had undergone total abdominal hysterectomy for ruptured uterus earlier.

**Case:** A 34 year old woman from rural Odisha, India with obstetric index Para 2 living 1 (P2 L1), presented to us with a chief complaint of sudden heavy bleeding per vagina for 20 days for which Norethindrone acetate (5 mg) and Tranexamic acid were given but bleeding did not subside despite medications. Her obstetric history indicated that she had been married for 18 years and her last child birth was 2 years back. It was an intra-uterine foetal death due to rupture of uterus. She underwent total abdominal hysterectomy for the same.

Physical examination revealed normal vital parameters. Abdominal examination revealed no palpable mass. On per speculum examination, bleeding was seen present, vaginal walls and vault appeared healthy. Per vaginal examination revealed an ill-defined mass of 7 x 7 cms. Ultrasonography showed hypoechogenic lesion in pelvis with non visualization of left ovary. CT scan suggested non visualisation of uterus and ovaries, with heterogenous space occupying lesion of size 8.5 x 6.6 x 8.1 cms in the right adenexa. Urine pregnancy test was positive and beta-HCG value was 165 mIU/mL. Provisional diagnosis of chronic ectopic pregnancy post hysterectomy was made and laparotomy was planned in accordance. There was a mass in pouch of douglas of size 8 x 8 cm which was haemorrhagic.

Histopathology confirmed the presence of degenerated chorionic villi tissue and tubal epithelium with focal dystrophic calcification.

**Conclusion:** Women with ovaries in situ after hysterectomy with bleeding per vagina or abdominal pain should be screened for ectopic pregnancy.

**Keywords:** Hysterectomy; Ectopic Pregnancy; Vagina; Abdominal Pain

## Introduction

Ectopic pregnancy after hysterectomy is very rare and infrequent, possible nonetheless [1]. Since ectopic pregnancy is not suspected in a woman with a history of hysterectomy, the diagnosis may be delayed with potentially life-threatening complications, increased morbidity and mortality for the patient.

Ectopic pregnancy is one of the conditions to be considered in the differential diagnosis of abdominal pain with bleeding per vagina in reproductive-age women [2]. It is imperative to keep in mind that the absence of uterus does not rule out a possible ectopic pregnancy though, the clinical presentation may vary widely from being asymptomatic to vaguely symptomatic. Here is a case depicting a woman who did not have any classical symptoms of ectopic pregnancy, with history of total abdominal hysterectomy for ruptured uterus, finally diagnosed with chronic ectopic pregnancy.

## Case Report

A 34 year old woman with history of surgical menopause due to total abdominal hysterectomy in the past (for ruptured uterus), presented to IMS and SUM hospital, Bhubaneswar, Odisha, with the main complaint of heavy bleeding per vagina since the last 20 days. The 1<sup>st</sup> bleeding episode was sudden in onset. There were no other complain and the patient denied having any pain or discomfort in the abdomen. She had been married for 18 years and her last child birth was 2 year back which was a case of intra-uterine foetal demise due to rupture of uterus. She had to undergo total abdominal hysterectomy. She had ben asymptomatic since the last two years, following which she had vaginal bleeding episodes for twenty days. She was on medications (Norethindrone acetate and Tranexamic acid) but bleeding did not subside). There were no significant past history of hypertension, diabetes mellitus, hypothyroidism or any other chronic medical illness.

Physical examination revealed normal vital signs. Abdominal examination yielded no results. Per speculum examination showed that bleeding was present, vaginal walls and vault were healthy. Vaginal examination revealed an ill-defined mass of 7 x 7 cm. USG done on showed a hypo-echogenic lesion in the pelvis, non visualisation of left ovary, and normal right ovary. CT scan (Figure 1) suggested non visualisation of uterus and ovaries with heterogenous space occupying lesion of size 8.5 x 6.6 x 8.1 seen in the right adenexa which was not separately visualised from ovary. Her haemoglobin value was 10.2 g/dl and total white blood cell (WBC) count was  $9.06 \times 10^9$ /L. Urine pregnancy test was done which was positive and Beta-HCG value was found to be 165 mIU/mL (normal levels being: 0–4mIU/ml). Diagnosis of chronic ectopic pregnancy post hysterectomy was made and the possibility of ectopic pregnancy was explained to her. She was planned for laparotomy.



**Figure 1:** Contrast enhanced Computed Tomography showing an ovoid mass with some collection in the POD.

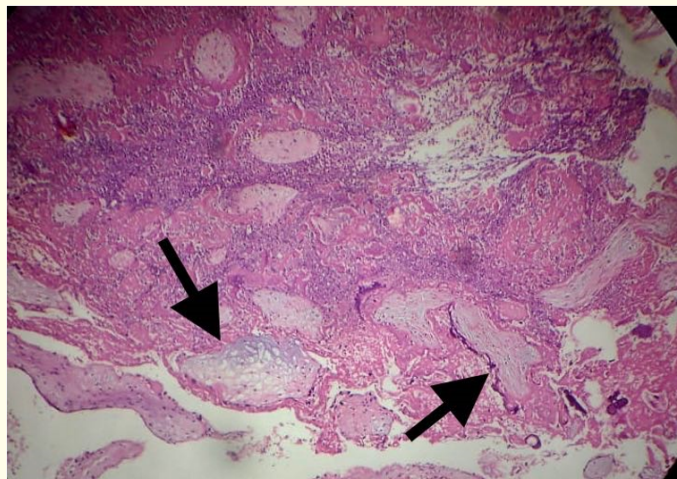
Intra-operative findings: There was mass in pouch of douglas of size 8 x 8 cm (Figure 2) which was haemorrhagic. Mass was removed in toto (Figure 3) and sent for histopathology study. Patient had an uncomplicated postoperative course. She was discharged from the hospital on postoperative day 3 with appropriate instructions. Histopathological examination (Figure 4) confirmed presence of degenerated chorionic villi tissue and tubal epithelium with focal dystrophic calcification which made the diagnosis of chronic tubal ectopic pregnancy after hysterectomy concrete and clear.



**Figure 2:** Intra-operative image showing the sac.



**Figure 3:** Gross specimen after surgery.



**Figure 4:** Histopathology showing evidence of chorionic tissue.

## Discussion

Ectopic pregnancy after hysterectomy is very rare. It was first reported by Wendler in 1895 [1]. Since then, only 72 cases of post-hysterectomy ectopic pregnancy have been reported world-over in literature [3]. Symptoms of ectopic pregnancy mimic the common complications encountered post hysterectomy such as pelvic haematoma or vaginal cuff infections. As a result, ectopic pregnancy is rarely suspected until the diagnosis is made by additional tests or repeat surgery [4-7].

It is thought that an open vaginal cuff closure technique, vaginal cuff infection, haematoma formation after hysterectomy, vaginal cuff granulation tissue, and a prolapsed fallopian tube increase the chance of vaginal-to-peritoneal fistula formation [8,9]. So, in this case these may be the etiological factors for ectopic pregnancy.

The delay in establishing the diagnosis can lead to the eventual rupture of the ectopic pregnancy, causing an acute abdomen with potential threat to the patient's life. The mortality rate associated with ectopic pregnancy following hysterectomy is much greater than in patients having an ectopic pregnancy with the uterus intact.

There are two forms of presentation of ectopic pregnancy post hysterectomy: early and late. Early presentation comprises those cases of ectopic pregnancy that occur in the first weeks or months after hysterectomy. In these cases fertilisation probably already occurred, or semen was present in the internal genital tract before hysterectomy was performed, thus allowing the fertilisation of the egg and subsequent ectopic implantation.

The cases of early presentations can be prevented with adequate contraception before hysterectomy, or scheduling surgery such as to avoid the luteal phase. On the other hand, the prevention of late presentation cases depends mainly on the quality and technique of the hysterectomy performed. The incidence of ectopic pregnancies can be reduced by careful vaginal cuff sealing, by keeping the adnexal areas at a distance, and covering with peritoneum. We have to avoid pelvic haematomas and infections because this will reduce the frequency of occurrence of fistular tracts. Thus, using a correct surgical technique, with careful asepsis and haemostasis, is the important key here.

In existing literature ectopic pregnancy has been reported in cases even so much so as 12 years after hysterectomy. The maybe due to the development of fistulous tract between the vagina and peritoneal cavity by which sperms have gained access to the peritoneal cavity.

Though the condition is rare, it goes unsaid that it is life-threatening indeed. A high index of clinical suspicion and low threshold for performing a pregnancy test is recommended, regardless of hysterectomy status. This will definitely lead to earlier diagnosis, timely intervention and lesser complications. A urine pregnancy test is quite cheap and readily available everywhere. Hence, it must be put to use keeping a high index of suspicion.

### Conclusion

Women with ovaries in situ after hysterectomy with bleeding per vagina or acute abdomen, abdominal pain should be screened for ectopic pregnancy. Our recommendation is to be ectopic minded, regardless of the hysterectomy status. Absence of the uterus does not rule out a possible ectopic pregnancy. Though infrequent, it is not impossible.

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