CASE REPORT

Ectopic Pregnancy Following Laparoscopic-Assisted Vaginal Hysterectomy in Tubectomised Women

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Introduction

Ectopic pregnancy following hysterectomy is uncommon; total of 56 cases are reported in the literature till date [1]. It may occur early or late, even up to 12 years after hysterectomy. Early ectopic pregnancy accounts for 55.3 % cases (31 out of 56) which results due to entrapment of fertilized ovum in the fallopian tube at the time of hysterectomy. Late ectopic pregnancies occur as a result of migration of spermatozoa from vaginal vault to peritoneum through a fistulous track. In some cases granulation tissue has been noted at the apex of vaginal vault [2]. If it is not considered in differential diagnosis of an acute abdomen in hysterectomized women, the diagnosis may be delayed. Having an ectopic pregnancy after hysterectomy in tubectomised women is even more infrequent and only two such cases has been reported in literature [3, 4]. We describe one such

case which occurred 6 months after laparoscopic-assisted vaginal hysterectomy and 10 years after tubal ligation.

Case Report

A case of 37-year-old woman who presented 6 months after laparoscopic-assisted vaginal hysterectomy (LAVH) with acute pain in abdomen associated with vomiting and constipation. She was taking medication for relief of pain, but was aggravated for last 2 days and was hospitalized and investigated. She was P₃L₃ and her tubectomy was done after last delivery 10 years back. LAVH was done for fibroid uterus before 6 months. Ultrasound whole abdomen showed large complex cystic area of size 9.1 m × 8.0 cm in right adnexa (Fig. 1). Differential diagnosis of pelvic abscess and twisted ovarian cyst was kept.

On examination: patient was pale with soft abdominal distension and tenderness over suprapubic area. There was no organomegaly and bowel sounds were present. On per vaginum examination, a cystic tender mass of about 10 cm was felt bulging into the vaginal vault, upper margin of the mass could not be well defined. Patient gave history of laparotomy after LAVH for hematoma, therefore a suspicion of pelvic abscess or old hematoma was kept.

Since patient was anemic and culdocentesis showed blood, decision of urgent laparotomy was taken. Granulation tissue was present on vault, which was biopsied and send for histopathologic examination. Abdomen was opened by midline vertical incision; there was gross

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Fig. 1 Showing complex cystic mass in right adnexa

hemoperitoneum and three fistful of clots were removed. A friable mass of about 4×4 cm seen in the right tubo ovarian region. Tube and ovary were not seen separate from the mass. There was a tear on the mass which was bleeding profusely. A suspicion of ectopic pregnancy was made (urine pregnancy test done in O.T. was positive). So right salpingo-oophrectomy was done (Fig. 2). Vault, anterior surface of bladder and POD were covered with old clots which were removed. Left tube and ovary were absent. Under surface of liver, spleen, and upper abdomen was explored to rule out any other etiology for haemoperitoneum. Abdomen was closed after inserting intra peritoneal drain in pouch of Douglas. 4 U of blood were transfused, her serum beta hCG was more than 1,500. Post-operative course was uneventful and patient was discharged in satisfactory condition after stitch removal and collecting histopathology report. Histopathology confirmed the diagnosis of tubal ectopic pregnancy (Fig. 3).

Discussion

Several cases of ectopic pregnancies occurring after hysterectomy have been reported in literature and ectopic pregnancy after tubal ligation is also not unusual. But post tubectomy and post hysterectomy ectopic pregnancies are exceedingly rare and only two such cases are reported in literature. Some authors reported the presence of granulation tissue at the apex of the vaginal vault, which was also present in our case and may represent the fistulous tract. It has been hypothesized that late ectopic pregnancies occur more frequently after vaginal hysterectomy due to surgical technique of tying the tubo ovarian pedicle next to the vaginal mucosa for vault suspension [5], whereas in abdominal hysterectomy the closure of the pelvic

Fig. 2 Showing—**a** friable adnexal mass removed **b** chorionic tissue mixed with old blood **c** positive urine pregnancy test

Fig. 3 Histopathology view: arrow showing products of conception in the wall of fallopian tube

peritoneal defect commonly places the adnexa away from the vaginal cuff. The surgical technique is also responsible for the more frequent fallopian tube prolapse seen in the cases of vaginal hysterectomy that also increase the risk of a subsequent ectopic pregnancy in these patients [6]. It is a matter of debate whether salpingectomy should be done in all young women undergoing hysterectomy, where ovaries are conserved. Conversely, ectopic pregnancy after tubal ligation has also been associated with pelvic inflammatory disease and surgical procedure used for sterilization [7]. Recently, laparoscopic-assisted vaginal hysterectomy is a popular method of hysterectomy especially in young patients where tubes and ovaries are also conserved. But the incidence of ectopic pregnancy is so less ($<0.1\%$) that we cannot sacrifice 1,000 ovaries to prevent one ectopic. There is no report in the literature, whether LAVH increases the risk of ectopic pregnancy but the preventive strategy would be correct surgical techniques. First, anchoring of tubes and ovaries to pelvic sidewalls to prevent prolapse into pouch of Douglas. Second, closure of

vault and hence prevent sinus formation. Third, performing hysterectomy in proliferative phase to prevent early ectopic pregnancy. Therefore it is not the route or type of hysterectomy but the correct surgical steps and strong clinical suspicion in doubtful cases will prevent and diagnose accidental ectopic pregnancies. In our case, even though the patient had pelvic mass and pain in abdomen for one and a half month, urine pregnancy test was not advised. Germ cell tumors may some times mimic the picture of ectopic pregnancy and have positive pregnancy test but absence of free fluid, hemodynamic stability, and high al-fafetoprotien level may help in differentiating them. Delay could have had a significant risk for the patient's life in our case. Therefore history of tubal ligation, hysterectomy or both does not preclude the occurrence of an ectopic pregnancy and relevant investigations should be timely ordered when symptoms are present.

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