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Laparoscopic management of ectopic pregnancy after subtotal caesarean hysterectomy: A case report

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Abstract

Introduction: Although rare, ectopic pregnancy after hysterectomy can often be misdiagnosed.

Materials and Methods: We report a case of an ectopic pregnancy following subtotal caesarean hysterectomy, managed laparoscopically.

Results: Post-hysterectomy ectopic pregnancy should be considered as a differential diagnosis in any woman of childbearing age presenting with abdominal pain or vaginal bleeding.

Keywords: Ectopic pregnancy, caesarean hysterectomy

1. Introduction

Ectopic pregnancy after hysterectomy is a rare occurrence and can often be misdiagnosed, leading to delayed treatment, serious morbidity and possibly mortality. We report a case of an ectopic pregnancy following subtotal caesarean hysterectomy, managed laparoscopically. Post-hysterectomy ectopic pregnancy should be considered as a differential diagnosis in any woman of childbearing age presenting with abdominal pain or vaginal bleeding. Early B-hCG testing is recommended to aid with the diagnosis and prevent the consequences related to delayed recognition and treatment.

2. Case Report

A 36-year-old patient with a previous history of a caesarean hysterectomy presented to the emergency department with sudden onset of severe abdominal pain. In her obstetric history, she is para 3 and underwent a subtotal caesarean hysterectomy in her last pregnancy for an undiagnosed placenta accreta. Her other surgical and medical history was unremarkable. Clinical examination revealed a patient in obvious distress but with stable vital signs. Her abdomen was notably tender with involuntary guarding and reduced bowel sounds. Investigations including blood tests and an abdominal ultrasound were promptly requested. The B-hCG level was 6064 IU, an unexpected finding. The ultrasound demonstrated free fluid in the pelvis and in peri-colic gutters extending to the diaphragm. A provisional diagnosis of an ectopic pregnancy with haemoperitoneum was made. Given that the patient was clinically stable, she was taken to theatre for diagnostic laparoscopy which revealed a large mass adherent to the left pelvic side wall and bowel, bleeding acutely. The mass was carefully dissected from the surrounding structures laparoscopically and sent for histopathology analysis. Patient recovered well from the operation and was discharged home the next day, without the need of a blood transfusion. Histology confirmed a left Fallopian tube ectopic and mesothelial cyst.

3. Discussion

Since the first reported case of ectopic pregnancy post-hysterectomy in 1895^[1], up to 73 cases have been reported in the literature^[2, 3]. The most prevalent implantation site is the fallopian tube, followed by the abdomen and ovary^[4]. Abdominal pain is the most common presenting symptom, which can be accompanied by vaginal bleeding, dizziness, dyspareunia, fever, malaise or pregnancy-related symptoms such as nausea and vomiting^[4]. The clinical presentation of post-hysterectomy ectopic pregnancies can be sub-classified as early or late. Early presentations occur in the immediate post-operative period and are thought to be due to the presence of sperm in the tube resulting in fertilisation and tubal implantation, thus escaping detection^[2]. Late presentations have been reported in up to 42 cases, up to 12 years after hysterectomy^[2].

The possible biological explanation is that sperm may be able to penetrate the vaginal vault or cervical stump into the pelvic cavity through micro fistulas or into a prolapsed fallopian tube [5]. This occurs mainly after vaginal hysterectomy, noted in approximately half of the cases reported [2]. They are also reports of ectopic pregnancies following abdominal (25%), subtotal (15%), laparoscopic (5%) and caesarean hysterectomies (5%) [2]. The risk may be increased with post-hysterectomy complications such as stump haematoma or infection [2].

Post-hysterectomy ectopic pregnancies have been commonly misdiagnosed as post-operative complications such as infection and vault haematoma, gynaecological conditions including ruptured ovarian cyst, ovarian neoplasm and endometriosis, or non-gynaecological conditions [4]. A meta-analysis reported that B-hCG was only performed in 49% presentations [4], which was the main factor leading to delayed diagnosis and treatment. Imaging modalities including ultrasound have a low sensitivity and prove to be diagnostic in only 21% cases [4]. Often the diagnosis is made at the time of surgery or after histopathologic analysis of the specimen from surgery [4].

Clinical deterioration can be rapid given intra-abdominal bleeding. Hemoperitoneum was reported in 51% women and 30% of them required blood transfusion [4]. Most patients were managed surgically via laparotomy. In one case where the pregnancy was detected early, successful management was undertaken with Methotrexate [6]. Although one rare case of pregnancy survival and live birth has been reported [7], this is a life-threatening condition that should not be managed expectantly. There has been one report of maternal death in a patient whose diagnosis was delayed and required multiple blood transfusions [8].

Our case is the fourth report of an ectopic pregnancy following a caesarean hysterectomy. Although extremely rare, it appears that caesarean hysterectomy may be an additional risk factor for an ectopic in years to come, given the larger oversewn vaginal cuff area caused by cervical dilatation and a conduit developing between the peritoneal cavity and vagina [9]. To our knowledge this is the first case where the post-hysterectomy ectopic was successfully treated laparoscopically, reducing morbidity associated with laparotomy and facilitating early hospital discharge and recovery.

Some of these cases could have been prevented with pre-operative pregnancy test and routine removal of Fallopian tubes at the time of hysterectomy. For sperm and oocyte to achieve fertilisation a channel needs to exist between vagina and peritoneal cavity. Complete removal of cervical stump and adequate closure of the vaginal vault in total abdominal hysterectomy, or diathermy of the cervical canal and peritoneal closure in sub-total hysterectomy may reduce the risk of sperm ascending into the pelvis [10]. Elective hysterectomies should be performed in the follicular phase of the menstrual cycle and women should be counselled to use effective contraception [3]. Care should be taken not to incorporate the fallopian tube and adnexal structures into the vaginal cuff during vault closure [2]. Good surgical technique with careful attention to haemostasis and sterility can reduce infection and haematoma risk.

Given the non-specific nature of its clinical presentation, any woman of childbearing age should have a B-hCG performed to exclude an ectopic pregnancy, including women presenting with pain or bleeding, regardless of hysterectomy status.

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