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Case Report

Complete Supracervical Uterine Transection - A Rare Complication of Abdominal Myomectomy

Kunal Rathod[1]*, Sheela Swamy[2], Adam Jakes[3], Holland Tom[4] and Kumar Kunde[4]

[1]*Consultant Obstetrics and Gynaecology, Whipps Cross Hospital, London, UK*

[2]*Consultant Obstetrics and Gynaecology Guys and St Thomas' Hospital, London, UK*

[3]*Speciality Trainee, Guys and St Thomas' Hospital, London, UK*

[4]*Consultant Gynecologist, Guys and St Thomas' Hospital, London, UK*

***Corresponding Author:** Kunal Rathod, Consultant Obstetrics and Gynaecology, Whipps Cross Hospital, London, UK.

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Abstract

Iatrogenic disconnection between the uterus and cervix remains an unreported complication post myomectomy. We report a case following abdominal myomectomy and the surgical repair.

A 41-year-old presented with secondary amenorrhea and primary subfertility. Ultrasound pelvis and Magnetic resonance imaging showed that the uterine body was entirely separated from the cervix. Successful reanastomosis of uterus and cervix followed by a Hysteroscopy and adhesiolysis which was performed after 6 months led to regular establishment of periodic menstruation.

Keywords: Myomectomy; Supracervical Uterine Transection; Fibroids; Trachelectomy

Introduction

Open abdominal myomectomy is a common benign gynaecological procedure and is associated with common and serious risks. Departmental consent forms are commonly based on the RCOG consent guidance for myomectomy. Risk of haemorrhage, damage to uterus and hysterectomy are discussed with the patient as a part of preoperative counselling and we recommend a caesarean section in subsequent pregnancies if the cavity is breached or if surgically indicated. Complete supracervical transection at myomectomy has not been reported in literature and is a likely possibility in cases where anterior and lower uterine and cervical fibroids are removed. It may not be apparent at the time of surgery and may have resulted from significant vascular compromise associated with a difficult myomectomy and multiple fibroids.

Case Report

A 41-year-old woman presented to the gynecology outpatient clinic with secondary amenorrhea and primary subfertility for about 8 years. She had previously undergone an abdominal myomectomy for the treatment of menorrhagia and to improve her chances of pregnancy. Multiple large fibroids were removed. She had no dysmenorrhea and dyspareunia.

She underwent investigations for primary subfertility and secondary amenorrhea. Serum FSH/LH, estradiol, thyroid function test, prolactin and semen analysis were within normal limits. 2D pelvic ultrasound scan demonstrated features suggestive of Asherman's syndrome. Hysteroscopy was attempted in a different centre but abandoned due to difficulty in dilatation of cervix with significant scar tissue noted and the creation of a false passage suspected.

Pelvic ultrasound scan in 2D and 3D was performed by a specialist gynecologist, which showed presence of a separated cervix from the uterine body with complete disconnection. Magnetic resonance imaging (MRI) also confirmed complete disconnection of the uterine body from the cervix, a left ovarian endometriosis cyst measuring 4x4 cm and a normal right ovary.

Her case was discussed at the fibroid Multidisciplinary meeting (MDM) and a plan to proceed with an open abdominal approach to re-anastamose the uterine body to the cervix was agreed. Counselling prior to surgery established her expectations and addressed her wish to have regular menstrual cycles and keep her fertility options open. The patient was made aware that the success of the procedure was unknown and there remains a very low chance of

having a safe and successful pregnancy outcome. An elective abdominal cerclage may be recommended should she wish to pursue a pregnancy.

A midline sub umbilical laparotomy was performed with careful abdominal entry, taking care to divide adhesions from previous surgery to expose the lower uterine segment and cervix. The bladder was dissected down to expose the abdominal portion of the cervix. A size 7 uterine manipulator was inserted vaginally and used to identify the cervical canal. This was further advanced through the internal os up to the uterine fundus to align the body and cervix together. Injecting methylene blue dye in the uterine fundus through a 20G needle helped to identify isthmic end of the uterus. Extensive adhesiolysis was done and refashioning of isthmic end of uterus and upper end of cervical stump was done. Multiple interrupted stay sutures were taken on the cervicouterine junction before anastomosis. Re-anastomosis of cervix and uterine body was achieved using vicryl 1-0 sutures. A 18 Fr Foley's catheter was placed inside the uterus upto the fundus to maintain patency and it was secured in place with sutures and the end was cut flush with the cervix. Good anatomical restoration was achieved at the end of the operation. A left ovarian cystectomy was performed to remove the endometriotic cyst. She had a total blood loss of 200 ml and was discharged on day 3 with the intrauterine foley catheter and oral antibiotics for a week. She made a good post-operative recovery and the intrauterine catheter was removed 4 weeks post-procedure.

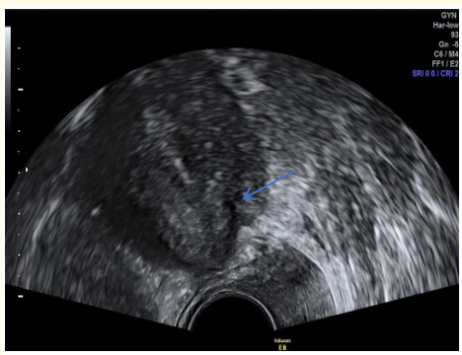

Figure 1: 2D Ultrasound scan showing supracervical disconnection of uterus and cervix, marked with an arrow.

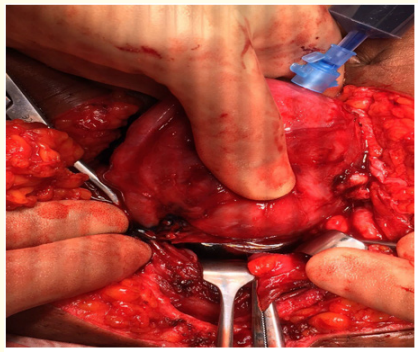

Figure 2: Methylene blue injected in uterine fundus.

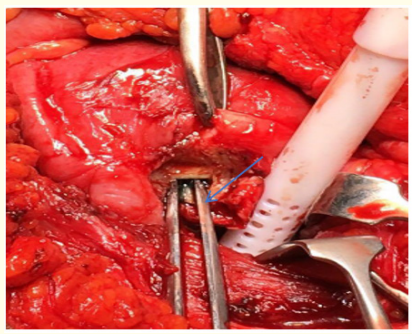

Figure 3: Isthmic end of uterus with methylene blue dye marked with an arrow.

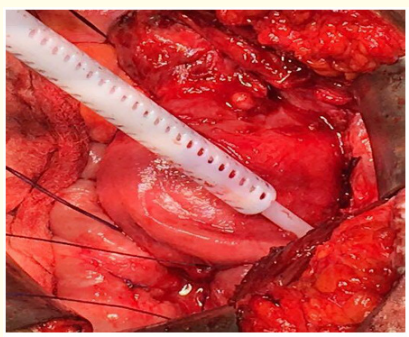

Figure 4: No 1 Vicryl stay sutures taken around uterine and cervical opening.

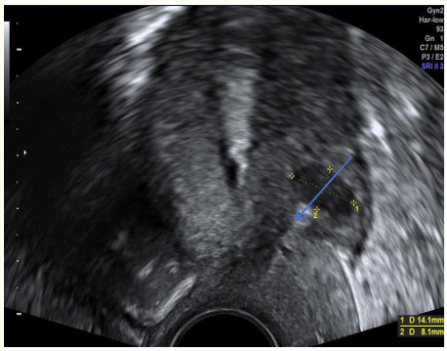

Figure 5: 2D ultrasound scan performed 3 months post procedure showing successful anastomosis of uterus and cervix, marked with an arrow.

She was followed up 3 months post-procedure. She denied any abdominal pain and now had infrequent light periods. Ultrasound scan showed the presence of a good connection between the uterine body and cervix. Vaginal examination revealed a normal looking external os.

Six months post-procedure, as her periods were still infrequent, she was consented for a hysteroscopy under general anaesthetic with ultrasound guidance. Cervical dilatation was achieved with some difficulty and intrauterine adhesions were noted and divided. A pediatric Foley's catheter was inserted to maintain patency of the anastomosis and prevent intrauterine adhesions. Estradiol valerate 2 mg three time a day was prescribed for 4 weeks. The catheter was removed two weeks post-procedure.

She then had a withdrawal bleed following a progesterone challenge. This was followed by the monthly menstrual cycles. She is currently contemplating a pregnancy in the future and would benefit from seeing our preterm birth expert to discuss the risks of cervical incompetence, miscarriage, preterm birth, uterine rupture and elective pre pregnancy abdominal cerclage.

Discussion

Iatrogenic complete disconnection of uterine body from the cervix is a very rare complication and certainly a possibility as we have seen with this case. There is very limited information to guide our management and hence the need for MDM discussion and robust individualized planning. Review of the literature revealed a small number of case reports, however none were as a result of complications post myomectomy. One case described cervico-uterine obstruction because of childhood road traffic accident with injury to pelvis has been reported [1]. Another case report described the congenital separation of a uterus from the cervix in a 16-year-old girl who presented with primary amenorrhea and abdominal pain. She underwent surgery in which conjugation of the uterus and cervix was performed through laparotomy and patient had regular periods following the procedure [2].

A 19-year-old female who underwent surgery for left ovarian teratoma at 10 years of age and a second surgery at 16 years of age for right ovarian serous cystadenoma presented to the clinic for primary amenorrhea in Poland. MRI confirmed fluid in the endometrial cavity and subsequent surgery showed disconnection between uterus and cervix and this was attributed to have been as a complication from past surgeries. It was successfully reconstructed with a surgery [3].

Evaluation by preoperative 2D/3D ultrasound scan remains the first method for diagnosis. MRI yields good data to help us make the appropriate plan for surgery. It is important to understand the anatomical position of the uterine body and cervix and mobilise the tissues adequately to provide anatomical orientation. Care should be taken to delineate the uterine artery and vein, which provides main blood supply and avoid accidental ligation, which could lead to ischemia of the neo cervico-isthmic junction. The bladder should be reflected down and ureters traced to avoid injury.

Intraoperative Methylene blue dye was injected with a small 20-gauge size needle into the fundus, which helped to identify the blind end of the uterine cavity. Passage of a small cervical dilator through vaginal route was useful to identify stump of the cervix.

Principles of surgery used to align uterine body and cervix in radical trachelectomy were applied in our case. A surgeon may use a similar approach to create anastomosis after refreshing edges of the cervix and uterine body to be conjugated. Radical trachelectomy is mainly used in treatment of cervical cancer, and for preservation of fertility in patients with benign disease [4].

A soft radioactive rod used in radiation oncology can be used to connect uterine cavity to the cervix. It can be stitched to the cervix to keep it in situ for atleast 4 - 6 weeks for achieving successful anastomosis. Alternatively, a Foley's catheter or a copper coil can be used to prevent adhesions and stenosis of neo cervico-uterine junction.

In the presence of functional and intact cervical segments in a patient with congenital cervical fragmentation, the reconstruction of the cervical canal performed by laparotomy with an end-to-end cervico-cervical anastomosis was feasible and effective [5].

Conclusion

Corrective surgery has led to good anatomical restoration in this case and she now has cyclical menstruation. She has also noticed a significant decrease in pain and an improvement in her psychological wellbeing. At this point we do not know whether she will remain symptom free in the long term, develop recurrent intra uterine adhesions or conceive spontaneously. She is at a high risk of cervical ectopic, cervical insufficiency, miscarriage, preterm birth, uterine rupture, placenta praevia and accrete and a difficult caesarean delivery. She would benefit from pre pregnancy counselling with the preterm birth team and consideration of an elective abdominal cerclage. We would recommend that any future pregnancy should me managed in a tertiary obstetric unit with level 3 neonatal intensive care unit.

Conflict of Interest

Authors declare that there is no conflict of interests.

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