

## VESICOCERVICAL FISTULA: A RARE COMPLICATION OF LOWER SEGMENT CAESAREAN SECTION

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### ABSTRACT

Vesico - cervical fistula is very rare accounting for approximately 4% of all urogenital fistulas. Vesico vaginal fistulas are commoner and usually follow prolonged obstructed labour and pelvic surgery. The woman may present with urinary incontinence, menouria and/ or amenorrhoea. Locating the exact site of the fistula may be difficult and surgical procedure depends on the same. A case of vesico cervical fistula following lower segment caesarean section is reported, thus highlighting the risks associated with caesarean section.

**Keywords:** Vesicocervical fistula, Vesicouterine fistula, Lower segment caesarean section

### 1. Introduction

Urogenital fistulas usually are ureterovaginal, vesicovaginal, or urethrovaginal. Vesicouterine and vesicocervical fistulas are rare, accounting for approximately 4% of all urogenital fistulas<sup>1</sup>. They are a pathologic communication between the bladder and the uterus. Vesicouterine fistulas may encompass the entire passage between bladder and uterus; those specific to the cervix are called vesicocervical fistulas. Vesicouterine fistula (VUF) may occur under various conditions, especially after Caesarean section, forceps aided delivery, external cephalic version, curettage or manual removal of placenta, placenta percreta, myomectomy, uterine rupture due to obstructed labor, uterine artery embolization, perforation of an intrauterine device, brachytherapy for carcinoma of cervix etc<sup>2</sup>. Among these, Caesarean section currently is the most common cause of VUF<sup>3</sup>, and repeated caesarean sections increases the risk of bladder injury and resultant fistulas<sup>4</sup>. The main symptom of a VUF is urinary incontinence<sup>5</sup>. Other symptoms are cyclic haematuria (menouria), amenorrhoea and urinary tract infection<sup>1</sup>.

We are reporting our experience of such a case. The woman had bladder injury during caesarean section which was repaired immediately; however she had distressing urinary incontinence after a symptom free period of few months. Here, the case details, clinical features, possible reasons and treatment modalities are discussed.

### 2. Case Details

A 22 year old primigravida at 39.5 weeks of gestation was admitted in labour delivery unit of

a tertiary care hospital of central India with chief complaints of labour pains. Her general examination was normal and on abdominal examination she had a full term pregnancy with cephalic presentation in occipitoposterior position and good fetal condition. She was in active labour with 4 cm dilatation. Labour was monitored by partograph. During second stage of labour, deep transverse arrest was detected and she was taken for emergency caesarean section. Intraoperatively bladder was advanced and lower segment of the uterus was thinned out. The baby's head was deeply engaged. While extracting the baby, there was injury to the bladder which was detected immediately. Primary repair of the bladder was done and per urethral Foley's catheter was kept for 21 days for continuous drainage. She had an eventful post operative period and was discharged after ensuring normal continence of urine. One year after the LSCS she reported back in outpatient clinic with chief complaints of severe burning during micturition and increased frequency of urine. Urine culture was advised which showed growth of *Pseudomonas*. There was no history of haematuria or fever. She was put on oral antibiotics for seven days after which symptoms subsided and she was discharged. After 4 months she again reported back to gynaecological outpatient with complaints of incontinence of urine since 3 months. On examination dribbling of urine was noted from just near the anterior lip of cervix and the urine was coming out through the external os. The fistulous opening was not visible to the naked eye. At this point in time a vesico-uterine fistula was suspected and the patient underwent further investigations. Methylene blue test was done by

instilling the dye into the bladder via a catheter placed in the urethra. The dye was seen coming out through a small opening of size 0.5x0.5 cm at the extreme left of the under surface of anterior lip of cervix which was hidden from vision by a flap of tissue and the diagnosis of vesico cervical fistula was made. CUrine culture was done and patient was investigated from anaesthesia point of view and repair was planned by vaginal route.

The dissection was difficult as the bladder tissue was stuck to the cervix densely and holding the fibrous tissue with allis tissue forceps for counter traction was resulting in slippage of the tissue repeatedly. However with patience and perseverance the bladder was dissected upwards by giving a 2cm size transverse incision on vaginal mucosa covering anterior lip of cervix and the fistulous opening was exposed on the undersurface of anterior lip of cervix. Wide mobilization of tissue was done. The bladder was first closed by vertically placed interrupted delayed absorbable sutures and then the first layer was buried by a second layer of horizontally placed interrupted sutures in pubovesical fascia so as to release tension on first layer of sutures. Vaginal mucosa was sutured back with reconstruction of anterior lip of cervix. Continuous drainage of the bladder was ensured via a per urethral catheter kept for 21 days. Post-operative recovery was uneventful and patient was subsequently discharged with normal continence of urine. She is under regular follow up since 6 months and is symptom free.

### 3. Discussion

Urinary incontinence is a very distressing symptom and causes substantial mental trauma to the patient. In the form of stress urinary incontinence it is a common health problem among middle-aged women<sup>6,7</sup>. However, true incontinence due to vesico vaginal or vesico uterine fistulae is not so common. Vesicervical fistula is an extremely rare complication occurring only in 1-4% of all urogenital fistulas. of these, only 0.1-1.5% is seen after gynaecological operations<sup>7</sup>. But it is still frequently found in developing countries<sup>8</sup>. Such type of fistulas causes mental and physical distress to the patient, very often resulting in marital disharmony and her being a social outcast.

Surgery has so far been the gold standard of treatment for this condition but there is a discouraging failure rate also<sup>7</sup>. Most

vesicervical fistulas are complications of caesarean section with symptoms of urinary incontinence<sup>7,9,10</sup>. Other possible causes include rupture of the lower uterine segment and bladder due to a traumatic forceps delivery, tuberculosis of the bladder and a perforation of an intrauterine contraceptive device into the bladder<sup>6, 7</sup>. The presentation of a vesico uterine or vesico cervical fistula would largely depend on the level of the fistula and can be explained by the sphincteric mechanism of the uterine isthmus and the different pressure gradients<sup>11</sup>. The shape and the diameter of the isthmus lumen change during the menstrual cycle. When a fistula is present above the isthmus, the menstrual blood passes directly from the uterine cavity into the bladder. No distension of the uterine cavity takes place, and the sphincter of the uterine isthmus fails to relax because the pressure in the uterine cavity does not increase. The result is "Youssef syndrome"<sup>11</sup>—that is, amenorrhea with a patent cervical canal, periodic hematuria termed "menouria" by Youssef<sup>11</sup>, and the absence of urinary leakage through the vagina. When the fistula is located below the isthmus, the menstrual blood accumulates normally in the uterine cavity, and when the sphincter of the isthmus relaxes, the menstrual blood passes as it should through the cervix into the vagina and not through the fistula into the bladder. Conversely, when submitted to high pressure in the bladder, urine leaks through the fistula from the bladder into the uterine cervix and the vagina. The symptoms of urinary leakage through the vagina are similar to those of the more common vesicovaginal fistula<sup>11</sup>. The symptoms can appear early after surgery or months or even years later<sup>1</sup>. Diagnosis can be achieved by cystoscopy, vaginoscopy, hystorgraphy, cystography, or excretory urography. Methylene blue dye instilled into the uterine cavity or through the urethra or through catheterization of a visible lesion in the bladder wall can also confirm the fistula. This test, however, does not show directly the fistulous tract and its specific location.

Surgery is the mainstay and definitive treatment of VUF, although spontaneous healing occurs in 5% of cases<sup>12</sup>. Injuries to the bladder discovered at the time of caesarean section should be repaired immediately. If the diagnosis of a vesico-uterine fistula is made in the early postoperative period, there have been a few reported cases of spontaneous closure of fistula with continuous urethral catheter drainage for two weeks with antibiotic cover. However the

accepted treatment for this rare condition is usually surgical. An abdominal approach is recommended by many because vesico-uterine fistulae are not easily accessible vaginally. Surgical repair should be delayed for at least 2 to 3 months after the caesarean section to allow for oedema and inflammation to subside.

### Conclusion

Vesico cervical fistula following complication during caesarean section is rare. It may be difficult to visualise and determine the exact location of the fistula. The symptoms depend on the point of origin of the fistulous tract and various pressure gradients acting on it. Surgery is the mainstay of treatment and its route is determined by its accessibility to the surgical hand. Ensuring continuous bladder drainage postoperatively is imperative. Continuous support and counselling, improves the morale of the distressed woman.

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**Figure 1 showing the cervix with the fistula. The probe (marked by black arrow) is placed inside the fistulous opening seen at the extreme left under the anterior lip of the cervix.**



**Figure 2 showing the methylene blue dye instilled via a perurethral catheter, leaking through the fistulous opening.**