

Coexistence of Vesicovaginal and Uterovesical Fistulae in a Primiparous Woman: Case Report

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Summary

Case Definition: Vesicovaginal fistula is the commonest obstetric urinary fistula. It is a dehumanizing complication of obstructed labour that may coexist with the latter's other complications. Uterovesical fistula is a rarer obstetric urinary fistula most commonly associated with caesarean section.

Reasons for Reporting: It is extremely rare for vesicovaginal and uterovesical fistulae to coexist. This article reports their coexistence and successful sequential repair in a primiparous woman who is reasonably socioeconomically empowered.

Case Report: A 32 years old primipara who had emergency caesarean delivery for prolonged obstructed labour developed total urinary incontinence postoperatively. Vesicovaginal fistula was confirmed by intravenous urogram and she had a successful transvaginal repair. A few days after discharge from hospital, she developed vulval wetness and subsequently had a four-day menouria. Hysterosalpingogram confirmed the diagnosis of uterovesical fistula and transabdominal repair was successful.

Conclusion: Vesicovaginal fistula and iatrogenic uterovesical fistula may coexist even in the socioeconomically empowered class. Proactive management of these conditions includes a high index of suspicion that enables accurate preoperative diagnosis of particularly the uterovesical fistula. This may save the patient some avoidable psychological and second surgical trauma.

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Introduction

Vesicovaginal fistula is the commonest urinary fistula of obstetric origin in Nigeria and other developing countries¹. It is of public health importance in sub-Saharan Africa due to paucity of economic resources, health facilities and manpower². The main aetiological factor is prolonged obstructed labour^{1,2,3}. Its development has been attributed to poor antenatal care utilization and inappropriate labour management, and the worse affected are poor, uneducated, primiparous teenage patients from rural communities^{4,5}. Treatment is mainly surgical, and it has been said that there is no patient as grateful as a woman whose vesicovaginal fistula has been cured⁵. Therefore, one can imagine the mental/psychological agony of a patient who suffers a reoccurrence of similar symptoms soon after a supposedly successful vesicovaginal fistula repair.

Uterovesical fistula is a less common obstetric urinary fistula with an incidence of 0.358 per 1000 deliveries in Nigeria⁶. It is most commonly caused by injury to the bladder at caesarean section, although it has been reported following obstructed labour^{6,8}. Youssef's syndrome, characterized by cyclical haematuria, apparent amenorrhoea and urinary continence, is pathognomonic⁸. Treatment is mainly surgical⁷.

This article reports the rare coexistence of vesicovaginal and uterovesical fistulae as complications of primary delivery in a socioeconomically empowered primiparous woman managed in a private maternity home. Diagnoses were confirmed radiologically and surgery led to cure. Literature on this rare coexistence is reviewed.

The work was approved by the Ethics Committee of the institution. **Case Report:**

A 32-year old para 1⁺⁰ Christian Igbo business woman who had a bachelor's degree in marketing, lived with her husband in Lagos. She had no living child. She presented to the clinic on May 27, 2002 with complaints of uncontrollable leakage of urine par vaginam for 10 weeks.

Her problems started on March 20, 2002, two days after an emergency caesarean section for

prolonged obstructed labour. The pregnancy was uneventful until term. Her antenatal care was at a private maternity home. Following spontaneous onset of labour, she was admitted into the maternity home and received pitocin to hasten labour. When she did not deliver after labouring for more than 24 hours, she was reviewed by a doctor who diagnosed obstructed labour. She was counselled for and had an emergency caesarean section. Her baby, a male, died a few hours after birth. Four days after surgery, she developed uncontrollable leakage of urine par vaginam, the presence of an indwelling urethral catheter notwithstanding. Her surgical wound healed uneventfully. She was discharged with a urethral catheter in situ and came to our hospital on self-referral.

On examination, she was sad, but well nourished; pale, but not febrile or jaundiced. Her vital signs were normal. Her chest was clinically clear and the heart sounds were normal. Except the scar, there was no other significant abdominal finding. Speculum vaginal examination revealed a 2cm by 2cm juxtacervical fistula. A diagnosis of vesicovaginal fistula was made. This was confirmed by intravenous urogram. Other investigations showed presence of urinary tract infection and anaemia which were treated. She consented to surgery and had successful transvaginal repair of the fistula on June 27, 2002. Her urethral catheter was removed 14 days after surgery and she was counselled and discharged.

At follow-up four weeks later, she complained of undue vaginal wetness that commenced a few days after discharge, and an episode of bloody urine which started on July 10, 2002 and lasted for 4 days. Uterovesical fistula was diagnosed, and confirmed by hysterosalpingogram which identified the fistulous communication between the uterus and the bladder (figures 1 and 2).

In figure 1 the uterus, marked by Lippes loop (white arrow), is tilted to the patient's right.

Figure 1
Preliminary film to hysterosalpingogram
anteroposterior view of the pelvis



In figure 2 the bladder, filled with contrast, is anterior to the uterus (Lippes loop white arrow). The black arrow shows the uterovesical fistula.

Figure 2
Hysterosalpingogram - lateral view of the
pelvis



She gave consent for another surgery and on October 25, 2002 had a successful transperitoneal excision of the fistula. Her post-operative recovery was smooth. She was counselled on the implications of both surgeries for her future obstetric aspirations and the need for good obstetric care during pregnancy, labour and puerperium. She was discharged on the 14th day. At the follow-up visits four, twelve and twenty four weeks after surgery, she had no complaints and was stable. She wished to rejoin her husband in Lagos and was discharged from follow-up. Discussion Vesicovaginal fistula constitutes a major public

health problem in developing countries. Though the worse affected are poor, illiterate, teenage girls from rural communities who receive little or no care in pregnancy and childbirth, our patient who was socioeconomically empowered and had antenatal care, was affected due to misuse of oxytocin and neglect during labour^{5,9}. These led to obstructed labour with prolonged compression of maternal soft tissue between the fetal presenting part and maternal pelvic bones leading to avascular necrosis, sloughing and fistula formation^{1,5}. Other causes of obstetric vesicovaginal fistula are trauma resulting from high forceps delivery, destructive operations, hysterectomies, caesarean sections, Gishiri cuts and dilatation and curettage^{1-3,5,9,10}.

The clinical presentation of vesicovaginal fistula is that of total incontinence of urine. The diagnosis is often confirmed by intravenous urogram as in our patient. Other methods of confirming diagnosis include examination under anaesthesia and dye test, cystoscopy and retrograde cystography. Preoperative workup involves treatment of anaemia and urinary tract infection as in our patient, and correction of malnutrition. Surgery is the mainstay of treatment and transvaginal repair, done on our patient, is preferred for simple fistulae.

Vesicovaginal fistula may coexist with other complications of obstructed labour such as rectovaginal fistula, peripheral nerve injury and osteitis pubis, but rarely coexists with uterovesical fistula, hence this report¹¹.

Uterovesical fistulae usually develop from trauma to the bladder during caesarean section and the worldwide prevalence is likely to increase due to frequent recourse to caesarean delivery and increase in complications associated with them^{7,8,12}. This is made worse by perioperative pelvic haematoma and sepsis⁶. The fistula may manifest after the section, in the late puerperium or after repeated sections^{7,8}, or as in the index case, after a masking vesicovaginal fistula has been repaired. Though uterovesical fistula mostly presents as Youssef's syndrome, urinary incontinence ranging from mild vulval wetness as seen in our

patient, to overt incontinence, may exist in some cases^{7,8}. In long-standing cases, there may be history of infertility and first trimester abortions⁷. The diagnosis is often confirmed by contrast imaging (hysterosalpingogram, intravenous urogram and retrograde cystography) or endoscopy (cystoscopy and hysteroscopy)^{6,7,12}. However, why the uterovesical fistula in our patient did not show on the intravenous urogram performed earlier was not clear, though this could be related to the pressure gradient between the uterine cavity and the bladder reservoir which made the contrast flow through the route with lower resistance¹³. The diagnosis of uterovesical fistula in our patient was subsequently confirmed by hysterosalpingogram^{6,14}. This diagnosis may have been made if hysterosalpingogram was performed prior to the primary surgery.

The treatment of uterovesical fistulae may be conservative or surgical. About 5% of cases are thought to heal spontaneously⁷. Conservative management by bladder catheterization for about 4-8 weeks if the fistula is discovered just after delivery offers good chance for spontaneous healing⁷. Surgery, however, is the mainstay of treatment. Pre-surgical workup includes treatment of anaemia and urinary tract infection, and continuous drainage of the bladder^{6,7} or uterus as in the index case, to keep the patient dry. Surgical resection of uterovesical fistulae and repair of uterine and bladder defects may be via the transvesical-retroperitoneal, transperitoneal or vaginal route⁷. Our patient had transperitoneal repair, which is considered the most effective approach with the least relapse rate⁷. Laparoscopic approach has also been considered useful for small fistulae⁷. In cases with large fistulae, omental graft may be interposed between the uterus and bladder with good results¹⁵. If the patient has completed her family, hysterectomy with repair of the bladder defect is a valid option¹⁶.

Pregnancy and childbirth after repair of vesicovaginal and uterovesical fistulae can be precarious and patients must be thoroughly counselled. Though fertility returns quickly after uterovesical fistulae repair¹⁵, infertility

may supervene. The pregnancy rate after uterovesical fistulae repair has been reported to be about 31.25%, but some of these will abort, giving a term delivery rate of only about 25%⁷. Elective caesarean delivery is advocated as it prevents recurrence of vesicovaginal and uterovesical fistulae⁷.

What our patient underwent would have been prevented by judicious use of oxytocic, avoidance of neglect and properly timed intervention during labour, or referral. Additional preventive measures include preoperative urinary bladder catheterization to keep the structure deflated and out of danger intraoperatively; careful intraoperative skills at dissection to prevent further damage to the already friable maternal soft tissues; and resting the bladder for 10-14 days postoperatively.

With the rising incidence of caesarean section, more cases of uterovesical fistulae are likely to be seen. Many more of these are likely to coexist with vesicovaginal fistulae, especially in developing countries such as Nigeria where cases of obstructed labour abound. There is therefore need for increased surveillance. In patients at risk of developing vesicovaginal and/or uterovesical fistulae, it may be worthwhile to do hysterosalpingogram in order to exclude occult uterovesical fistula after the vesicovaginal fistula has been confirmed by intravenous urogram. This way, an afflicted patient may require only one repair operation instead of two as with our patient, the psychological trauma associated with the second incontinence will be avoided and the overall cost implication for the individual patient reduced.

In conclusion, vesicovaginal and/or uterovesical fistula may occur in the rich also, not only in the poor. Because they can coexist, it is wise to look for the more occult condition in patients with suggestive history before commencing treatment. In well-motivated and managed patient, cure is possible and leads to improved social, family and psychoemotional rehabilitation, all of which occurred in this case.

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