

# A Case of Vesicouterine Fistula: Unwanted Medical Anomaly but Consequentiality of Most-Wanted Medical Intervention ‘Caesarean Section’

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## ABSTRACT

Vesicouterine fistula is a rare entity, with unique presentation of cyclical haematuria, amenorrhoea, absence of urinary incontinence (Youssef syndrome). A 35 year old female patient, P2L2 with 2 previous LSCS presented with cyclical haematuria, amenorrhoea, repeated UTI, dating from 11<sup>th</sup> day of last LSCS. Transabdominal sonography revealed communication between bladder & uterus, confirmed by cystoscopy. At laparotomy fistulous tract delineated and bladder separated from uterus. Hysterectomy and closure of bladder done. Continuous bladder drainage with suprapubic and perurethral foleys catheters maintained. Postoperative period was uneventful. Cystoscopy during followup revealed healthy scar. Vesicouterine fistula is an avoidable complication of LSCS which can be prevented by sound surgical technique.

**Keywords:** Vesicouterine fistula, Menouria, Youssef syndrome

## INTRODUCTION

“Unwonted medical anomaly associated with most wanted medical intervention” – this is what “Vesicouterine fistula” is, in its simple, laconic & univocal description. However, it is a common notion that whatever is described as rare becomes more noticeable, which actually underestimates its tight association with most common medical intervention like Caesarean section. Its rarity is of minor concern, compared to its still enigmatical etiologies which are quite corrigible by clinician’s meticulous practice of simple obstetric-surgical procedures. The present case is not only the corroborant to existing information but adds much awaited scientific cogitation about the subject knowledge.

## CASE STUDY

On April 21st, 2010, a 35-year-old female was rushed to our department with triad of symptoms i.e. cyclical haematuria, amenorrhea, along with incessant UTI attacks. However, no urinary leakage was reported since last 6 years from 11<sup>th</sup> post-op day of last lower-segment Caesarean section (LSCS). The patient’s report, since last conception, suggests regular previous cycles confirming unremarkable menstrual history. Her OB history signifies, she is P<sub>2</sub>L<sub>2</sub>, where both were outcomes of lower-segment Caesarean section. However, she reported history of haematuria along with fever & chills for one month, since 11<sup>th</sup> day of last LSCS. Lactational amenorrhea for three months reported to be followed by menouria till date. General examination shows detection of no abnormalities per abdomen, healthy cervix & vagina per speculum along with normal-sized anteverted uterus & free fornices uterus per vaginum. All required & necessary investigations were carried out methodically considering multifactorial management approach. Copious amount of pus cells found on complete urine examination. Positive E.coli found on urine culture & sensitivity. Normal limits were well maintained by blood urea & serum creatinine. Transabdominal sonography trots out normal uterus, but fluid filled endometrial cavity with anterior myometrium communicating with urinary bladder. Right pyelonephritis found on IV Urethrography. Cystoscopy blackwashes a conspicuous 2-cm fistulous opening with gory discharge from supratrigonal region.

After following all standard protocols & medically acceptable ethical considerations, detailed probing & diagnostic procedures were applied & vesicouterine fistula confirmed.

When performed considering all needful considerations, laparotomy confirmed bladder adhered to isthmus that delineates fistulous tract. Following all standard precautions & specific surgical protocols, bladder was carefully separated from isthmus & hysterectomy was performed to prevent fistulous atavism. Furthermore, trilayered closure of bladder was done using 2-0 vicryl sutures. Retrovesical drainage was allowed prior to abdomen closure. Continual 24-hours bladder irrigation through suprapubic catheter was done with normal saline. Perurethral bladder drainage performed using Foley’s catheter. Considering related factors & observations, removal of sutures along with retrovesical drainage was done on 7<sup>th</sup> day. Suprapubic catheter removed on 10<sup>th</sup> day. Fluid free pelvis was found on pelvic ultrasonography. E.coli reported from urine culture & sensitivity isolated & treated accordingly. Fistulous tract epidermalization uncovered on histopathology. On day 22<sup>nd</sup>, pelvis ultrasonography repeated and post-voidal residue of 10 ml found. Two-weeks prescription of “Ciprofloxacin”, one tablet daily along with necessary prescription advice was given to the patient at the time of discharge & weekly follow-up suggested for two months. Asymptomatic follow-up visits confirmed gradual recovery. No appreciable growth identified on urine culture & sensitivity although repeated twice. Cystoscopy performed after two months excavated healthy linear scar with no symptomatic throwback.

## DISCUSSION

As “Caesarean section” is establishing its validity as most common & useful medical intervention during pregnancy correspondingly number of cases of unwonted anatomical alteration called vesicouterine fistula is becoming more & more evident from previous data & literature available. Vesicouterine fistula is a sporadic variety of fistula that accounts for only 1-4% of all urogenital fistulas [1,2]. Its development is usually followed after prior C-section. The patient most often presents with clear watery discharge per vaginum, cyclical menorrhea, & amenorrhea. Most of the times, its clear description &

recognition is difficult clearly on per vaginal examination, or evident only with great difficulty when upper cervix also involved [3].

Caesarean Section leads to various anatomical alterations that leads to vesicouterine fistula i.e. inadequate downward mobilization of the bladder, direct injury to that portion of the bladder sometimes adherent to the anterior vaginal or lower segment wall, aberrant sutures placed so that a knuckle of bladder is caught in the sutures, excessive devascularisation of the bladder during dissection, infection secondary to cauterization, clamping or hematoma formation [4,5,6]. All these are particularly prone to vesicouterine fistula especially if the patient has had a previous Caesarean history [7,8].

If fistulous communication is above the isthmus [9], patient presents with menouria, amenorrhoea, without urinary leakage as menstrual blood passes into the bladder and intrauterine pressure never rises above isthmus sphincter pressure [10]. This has been termed as Youssef Syndrome. If fistula lies below isthmus, patient presents with urinary incontinence when the bladder pressure rises and normal menstruation ensues in such cases [10].

Clinical examination chosen scientifically & methodically alongwith correct diagnostic modalities at correct point of medical intervention is required for the diagnosis of this anatomical alteration correctly. Pelvic ultrasonography, sonohysterosalpingography, colour Doppler, retrograde cystourethrography, IV pyelography aids well in diagnosis of vesicouterine fistula. Transabdominal approach is better choice of repair if the fistula is large in size. When location of the fistula is high enough on posterior bladder wall involving ureters is a concurrent intra-abdominal pathology, Omental flaps interposition aids in successful repair of fistula [3]. Once the repair is done, bladder integrity must be tested with 200 ml of fluid coloured with Methylene Blue or Indigo-carmin. Post-operatively bladder can be drained for as long as 3 weeks. Meticulous & must follow-up of correctly repaired fistula following Caesarean section is required during following pregnancy cases [11].

Treatment choice is most of the time by surgical repair [12]. Transperitoneal approach [9,12] seems to bring better outcomes compared with transvesical route [13]. To prevent recurrence interposition of omentum [12] between uterus & bladder is done.

Recent advances like Robotic repair [14] has all advantages of open & laparoscopic surgery. Fistulas detected within 48 hours should be repaired early but in case detected later should be repaired after 45-60 days so as to allow the tissue healing, oedema resolution and clear scar formation [3]. Various conservative methods are also available at choice like continuous bladder drainage under antibiotic cover [2,10]. Cystoscopic fulguration [2] with hormonal suppression of endometrium [10] have been tried in small fistulae if diagnosed immediately. This is based on principle that fistulae most of the times do not dissolve spontaneously, if the fluids i.e. urine, menstrual blood etc. flow through them as this seriously obstructs the healing process [10].

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