

Urethrovaginal Fistula Following Trauma From A Collapsed Building: A Case Report

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Abstract: Urethrovaginal fistula is usually seen following obstetric trauma. Trauma, however have being implicated as a cause of fistula worldwide with increasing cases of urogenital fistula due to trauma reported particularly in war torn country. We present a case of 16 year old young lady who developed urethro-vaginal fistula following fall of a collapsed building on her while she was asleep at home. Poly traumatized patient may develop urogenital fistula hence the need for thorough examination.

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I. Introduction

A urethrovaginal fistula is an abnormal passageway between the urethra and the vagina¹. It results in urinary incontinence as urine continually leaks through the vagina. Generally, fistulas are common in underdeveloped countries and are a consequence of Obstetric injury.² Urethrovaginal fistula occurs mostly in obstetric context or is iatrogenic due to surgical procedures in adults.^{3,4} Among young ladies, it often occurs in a pelvic trauma context.⁵ Urethrovaginal fistulae most commonly occur as a result of vaginal surgery, including anti-incontinence surgery, anterior vaginal wall prolapse surgery, and urethral diverticulectomy and faulty catheterisation. Other causes include radiation therapy for pelvic malignancy and vaginal neoplasms.

Symptoms of urethrovaginal fistulae are largely dependent on the size and location of the fistula along the urethral lumen. Proximal fistulae can be associated with stress incontinence, or, if they are located at the bladder neck, continuous incontinence may result, similar to that associated with vesicovaginal fistulae. Distal fistulae beyond the sphincteric mechanism may be completely asymptomatic or may be associated with splayed urinary stream.

The surgical repair of urethrovaginal fistulae is challenging and can often be more difficult than repair of VVF. This is due to several factors, including extensive soft tissue defects as well as the lack of local viable tissue for a multilayer repair.

II. Case report

Miss H S is an 16 year old lady referred by the urologist on account of nine month history of continuous leakage of urine per vaginam.

The leakage of urine was noticed nine months prior to presentation when a building collapsed on her while she was asleep. She noticed immediate leakage of urine after she was rescued. There was a history of haematuria which stopped spontaneously after a month. There was no history of stool incontinence. She had no history of suggestive of any systemic involvement following the trauma. However she sustained a fracture on the left femur for which she presented to Usmanu Danfodiyo University Teaching Hospital. She had debridement and external fixation by the orthopaedic team before her referral to urologists and urogynaecologist.

Physical examination revealed a young girl walking with the aids of crotches. There was a cast on her lower limb but the right limb was normal. She was in a satisfactory general condition. She weighed 56kg, her height was 1.61m. Her chest was clinically clear. The pulse was 90 beats per minute, blood pressure was 100/60mmhg and Heart sounds were I and II only. There was no significant finding on abdominal examination. Pelvic exam revealed the perineum was smeared with urine, with ammoniacal odour. The hymen was absent. There was no demonstrable stress incontinence however there was egress of urine from the introitus.

An assessment of traumatic vesicovaginal fistula was made and she was planned for examination under anesthesia and repair of the fistula. Urinalysis, urine microscopy culture and sensitivity, full blood count, urea, electrolytes and creatinine were all normal. Intravenous urogram report however showed pelvic asymmetry with

multiple healed fractures involving the right ileum, pubis and ischium with normally outlined kidneys and ureters.

During the examination under anaesthesia a juxta urethral fistula about 3cm by 2cm was noted. The fistula was about 2cm from the urethral meatus and about 5cm from the cervix. The fistula edges were healthy with minimal scarring. She had repair of the fistula and did well postoperatively. The urethral catheter was left in situ for two weeks. Catheter was removed on the 15th day. She remained leakage free for the next 48 hours following which she was referred back to the orthopaedic team to be seen in 4 weeks in the gynaecological clinic.

Four weeks later she presented to the Urogynaecology team for follow up. She had remained dry without any complaint. She was subsequently discharged from the clinic.

III. Discussion

In sub-Saharan Africa urogenital fistulas are endemic and poses a serious challenge as a social menace with daring physical and psychological consequences. There are recent large-series reports on fistulas from Nigeria, where 96.5%–97.9%⁶ of these fistulas are a result of prolonged obstructed labour. This is unfortunately a disease of young women of poor socioeconomic status, who often waited several days before hospital presentation. The cause is mainly obstetric injury in the underdeveloped world compared to developed world where the cause is more likely to be due to iatrogenic injury, radiation or malignancy. Among young ladies with involuntary leakage of urine enuresis, immediately comes to mind. However, with the history of collapsed building fallen on the patient traumatic aetiology has been established. Various forms of trauma have been reported worldwide. Urethrovaginal fistula due to female genital mutilation, faulty catheterisation and iatrogenic surgical injury have been reported.^{7, 8}

The possible mechanism of injury in this case could be that the patient sustained pelvic fracture when the building collapsed on her with a sharp edge of the pelvic bone injuring the urethra. Again because the leakage of urine was immediately after the tragic incident of building collapse and the fact that there was total hematuria thereafter further support trauma as a possible cause.

Urethrovaginal fistula is easy to identify once a speculum examination is done. Usually there may not be need for detailed examination under anaesthesia to be done. The mid-urethra was the site affected as this was expected due to its close proximity to the pubic bone. The result of X-ray which revealed multiple healed bony fracture further confirms the insinuation of possible fractured pubic bone that may have injured the urethra.

Surgical repair of urethrovaginal fistula may be challenging where there is extensive urethral tissue loss with grafts and flap used to achieve successful repair. In this case the tissues were healthy with minimal tissue loss and scarring, hence repair was quite straightforward. A transverse repair was done and a urethral catheter inserted and secured to avoid traction on the repair site. The postoperative outcome was successful.

IV. Conclusion

Trauma remains a recognized cause of urogenital fistula world over. Thorough examination of patient following trauma would enable prompt intervention and even successful primary repair of fistula in selected cases.

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