COMPLICATIONS OF FISTULA REPAIR SURGERY

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In the developing world, the true incidence of obstetric fistulas is unknown, as many patients with this condition suffer in silence and isolation. Obstetric fistulas destroy the lives of many young women in the developing countries. Some estimates place the worldwide prevalence as high as 2 million women worldwide. In some rural areas of Africa, the fistula rate may approach 5-10 per 1000 deliveries, which is close to the maternal mortality rate in Africa.

Reconstructive surgery can mend the injury, and success rates are as high as 90 per cent for uncomplicated cases. Two weeks or more of post-operative care is needed to ensure a successful outcome. Counselling and support are also important to address emotional damage and facilitate social reintegration.

RECURRENT FISTULA (PERSISTENT INCONTINENCE)

Fistulas can be closed successfully in 72% to 92% of cases. The definition of success, however, is often different when the perspectives of the patient and the surgeon are compared. “Success” to a fistula patient means complete restoration of urinary continence and control, whereas many surgeons define “success” as simply closing the fistula.

ASSESSMENT OF FISTULA

The number, size and location of the fistula/s are crucial for a successful repair that aims at a fully dry patient postoperatively. Clinically it will be important to assess the number, size and location of the fistulas, the amount of fibrosis present, and any involvement of the ureters and or the urethra.

A complaint of persistent leakage by the patient needs to be evaluated. The first step is to assure that the fistula has been closed successfully. This can be done by placing a balloon catheter into the bladder, occluding the bladder neck, and filling the bladder with a solution of water colored with indigo carmine or methylene blue. If the fistula has not been closed successfully, the leakage should be readily apparent.
THE SIMPLE FISTULA

Only about 20% of obstetric fistulas can be defined as simple. Simple fistulas are less than 3 cm in diameter, with no or only mild scarring and do not involve the urethra. The first pre-requisite for successful fistula repair is meticulous attention to detail. In practiced hands, skilled fistula surgeons routinely achieve a closure rate of over 80% for simple fistulas at the time of first operation. Multiple papers reporting large case series support this contention.

THE COMPLEX FISTULA

A complex obstetric fistula can be described being larger than 3 cm, involving the urethra, and associated with reduced vaginal capacity from significant scarring and/or a reduced bladder volume. Sometimes the defect may be urethrovaginal, but more commonly both the urethra and bladder are involved and therefore the fistula is called an urethrovesicovaginal.

CONCLUSION

The complications of vaginal fistula and its repair are multiple. The recurrence of fistula is the most frustrating.

Complications could be avoidable and repairable:
- Adequate exposure of the operative field.
- Repair should be: Tension-free, Watertight and uninfected.
- Minimize bleeding and haematoma.
- Avoid ureteral obstruction.
- Interposition flap if required (Omental or Martius flap or Fibrin Glue).
- Highest success (1st attempt)
- Involvement of sphincteric mechanism (anti-incontinence procedure later).
- Associated Vagino-rectal fistulae (should be repaired simultaneously ± colostomy).

The advantage of having the fistula well repaired from first time is crucial because success rate decreases with more attempts of repair:
- First repair success rate: 70-90%
- 2nd repair success rate: 50-60%
- >than 2 procedures: <40%
Overactive Bladder after Vaginal Fistula Repair

The successful repair of a vesicovaginal fistula can correct the anatomical defect, but it might not render the patient dry. Failure to store urine is another problem that may occur after vaginal fistula repair caused by what is called "Overactive Bladder Syndrome".

**CONTRACTED BLADDER AS A COMPLICATION OF VVF REPAIR**

Although contracted bladder is a recognized complication of vesico-vaginal fistula, there is very little if any mention of this of vesico-vaginal fistula in the literature.

Contracted bladder may result from substantial loss of bladder tissue during the pathogenesis of obstetric vesicovaginal fistula. Repeated repair and tissue scaring may add to this problem. It is very difficult to diagnose this problem preoperative except in very obvious cases.

Every effort should be made during the repair of the veico-vaginal fistula to spare bladder tissue. Contracted bladder can be one of the causes of persistent incontinence after successful repair of vesicovaginal fistula.

**URINARY TRACT INFECTION**

In general, it is considered that urinary tract infection (UTI) is relatively uncommon in women with fistula, in view of the free drainage of urine from the bladder, and the rarity with which such patients suffer voiding dysfunctions. UTI may however be seen as a complication of surgical repair of fistula or of the prolonged catheter drainage that usually follows such procedures.

**CONTRACTED VAGINA, DYSPAREUNIA & SEXUAL DYSFUNCTION**

The problem of cicatrisation in association with vesicovaginal and urethrovaginal fistulae is well recognised, and known to be more associated with obstetric fistulae related to obstructed labour, or to post-radiation fistulae that to other aetiologies. In the first case, acute ischaemia occurs as a result of prolonged unrelieved pressure on the bladder base and urethra by the fetal presenting part; in the second case progressive devascularisation occurs as a result of chronic endarteritis, which may be progressive over several decades.

**URETHRAL COMPLICATIONS OF VAGINAL FISTULA REPAIR**

Urethral complications of obstetric genitourinary fistula can occur as a complication of genitourinary fistula repair or can be associated with it. These complications include, urethrovaginal fistula, urinary incontinence, and obstruction.
Urethro-vaginal fistula is a distinct type of fistula that has to be differentiated from vesico vaginal fistula. It can occur as a standalone fistula or can accompany a vesico vaginal fistula. Furthermore, it can extend to involve the bladder neck and the trigone.

**Ureteric ligation / Injury due to VVF REPAIR**

Injury to pelvic ureter is one of the most serious operative complications of gynaecologic surgery. Vesical vaginal fistula (VVF) repairs lead to 10-15% of ureteric injuries. Ureteral injuries can be either expected or unexpected, and they may be the result of carelessness or due to a technically challenging procedure.

The 6 most common mechanisms of operative ureteral injury are as follows:

- Crushing from misapplication of a clamp
- Ligation with a suture
- Transsection (partial or complete)
- Angulation of the ureter with secondary obstruction
- Ischemia from ureteral stripping or electrocoagulation
- Resection of a segment of ureter

**NEUROLOGICAL COMPLICATIONS OF VVF**

Prolonged obstructed labor results in pressure induced ischemia and necrosis of the vagina, bladder, (occasionally) ureters, urethra and rectum, often provoking profound genitourinary fistula formation. These injuries may be part of a syndrome called the obstetric labour injury complex, which can include damage to the urological, gynaecological, gastrointestinal, neurological and musculoskeletal systems.

**INFERTILITY AS A COMPLICATION OF VVF**

Vesico-uterine fistulas can present in different ways, depending on their location, size, and the degree of patency of the endocervical canal. The least troublesome vesicouterine fistulas do not result in incontinence, but are characterized by the absence of vaginal menstruation in the presence of cyclic haematuria (“menouria” or “Youssef’s syndrome”), whereby the menstrual flow exits exclusively through the urinary tract.
**Psychological Complications**

Women with urinary or fecal incontinence show depression, anxiety, and abnormal levels of situational life stresses. It is likely that psychological changes are related to the symptom and related disability and distress than to specific urogynecologic conditions. Feeling of insecurity, anger, apathy, dependence, guilt, indignity, feeling of abandonment, shame, embarrassment, depression and denial are also common. Women feel loss of self-confidence and self-esteem.