



# Urological Complications in Obstetrics and Gynaecology

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## Editorial

Urological injuries have been inescapably associated with gynaecological and obstetrical surgeries, owing to anatomic proximities of urogenital organs. Fortunately, good obstetrical care had led to decreasing trend of such injuries at least in obstetric sector, in contrast to complex gynaecological surgeries, in which urinary tract injury complicates an estimated 0.2% to 1% of all gynaecologic procedures and pelvic operations [1]. Studies revealed an incidence of 0.49% for bladder, 0.24% for ureter in gynecological surgery, and 0.18% for bladder and 0.01% for ureter in obstetric surgery [2]. Another reason of rising trend of such iatrogenic injuries in gynaecology might be zealous use of laparoscopy in complex procedures.

Acclimatization with anatomy and cautiousness at known sites of subsequent injury may help in prevention. Intraoperative diagnoses is arduous however if one is vigilant enough, immediate repair is feasible which can prevent morbidity.

Intraoperative cystoscopy, during major benign gynecological operations, was successful in detecting urological injury only in 0.4% cases which otherwise would have gone undetected [3]. Thus, I recommend its use only during complex procedures or if one is sceptical that injury has occurred.

Mechanism of various types of injuries includes bladder laceration, unrecognized cystotomy, transection of ureter, incorporation of bladder tissue or ureter during suturing or diathermy related injuries [4]. The lower segment of ureter is the most common site of injury and meticulous attention is required while dealing with anatomical sites like the tunnel of Wertheim's, the base of the infundibulo-pelvic ligament and vault angles. Various urogenital fistulae are considered as most debilitating sequel to such injuries as it affects physical, mental as well as social aspect of patient's health. Amongst them, obstetrical ones are associated with extensive pressure necrosis of bladder walls and urethra and diffuse peri-fistular fibrosis. Higher recurrence and failure rates due to their large size and presence of ischaemic tissues are other problems encountered to urosurgeon. While, postsurgical fistulae are associated with clean-cut margins, healthy tissue and localised trauma thus better surgical outcome and prognosis. Surgeons are liable to face serious medico legal implications in such cases hence early detection, repair and pre and post-surgery counselling should never be ignored in performing complex procedures.

Management of these injuries should include thorough evaluation of patient which includes general physical examination, examination of external genitalia for ulceration, infection or scarring from previous episiotomy or fistula repair, followed by per abdomen and bimanual examination. Site, size, number, margins and fixity of fistulae along with urethral and anal sphincter involvement should be noted. Vaginal anatomic features, including depth, associated prolapse, atrophy, and introital size, should be carefully recorded. Cystoscopy, upper and lower urinary tract imaging is must to rule out other associated injuries.

Due to the wide variety and individuality of the clinical manifestations of these injuries, it is practically impossible to find and create common guidelines for treatment. Till date numerous controversies in terms of timing and ideal approach but utmost importance during fistulae repair is regarded to adherence to the principles during surgery. Clinging to the aim of relieving obstruction, restoring anatomical and functional integrity is every urosurgeon's responsibility. This is because first attempt is considered the best attempt for favourable outcome. Other factors that determine success is careful patient selection, individualization and knowledge of all other treatment options.

Most of the patients require surgical intervention, exceptional cases where ureterovaginal fistula is diagnosed early during post-operative period can be considered for trial of ureteroscopy and stenting. Such a trial prevents surgical trauma and also relieve patient symptoms.

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Clinical factors that can affect surgical outcome and success rates include degree of urethral involvement, size, location, and number of fistulae; amount of scar tissue and remaining healthy tissue, including bladder capacity; and whether or not the patient has previously undergone repair. Various methods of vesicovaginal fistula (VVF) repair have been described however transvaginal and laparoscopic repair have their own advantages and should be primary choice before going for open surgery. Adequate exposure, tension free approximation of fistula edges, non-overlapping suture lines, multi-layered closure of bladder and vagina at right angle to each other, good haemostasis are fundamental principles of repair which can be achieved through both vaginal and abdominal route. Reinforcement flaps with their multifactorial mechanism strengthens the surgical repair. Martius flap in transvaginal and omental flap in transperitoneal approach are two such reinforcement flaps, which are most versatile and vascular, and can be harvested with ease without producing any functional or cosmetic donor site deformities. Vesicouterine fistula although rare demands uterus preservation based on patients reproductive wishes. Conventional treatment included hysterectomy with bladder repair, however laparoscopic or open uterus preserving repair has good outcome and should be attempted following same principles of VVF repair.

In ureterovaginal fistula and lower ureteric strictures laparoscopic psoas hitch ureteroneocystostomy is highly successful in experienced hands with advantage of providing naive surgical field. Urethrovaginal fistulas are increasing now days especially with advent of various incontinence surgeries. In this fistula lacks of local viable tissue with surrounding soft tissue loss creates more difficulty than VVF repair however good surgical technique with use of rotational vaginal flaps has very good success rate.

It's not only the repair techniques; postoperative care that we usually neglect is very valuable in outcome of repair. Patient should drink adequate fluid and a proper urinary drainage should be ensured to prevent urinary tract infection and increasing success of repair. Anticholinergic drugs have added on effect in cases of urinary bladder repair and should be administered liberally. Looking at importance of these genitourinary fistulas a Global Fistula Map was developed by world health organisation (WHO) which provides an illustration of

available services for women with fistula [5]. The Map demonstrates that currently, despite increased international attention to the issue, the number of women with fistula is increasing because of paucity of appropriate management [6,7]. Women living with fistula in up to 80% cases do not receive appropriate care [6,7]. WHO developed Global Fistula Map is an attempt to show not only where women are affected around the world, but also where providers are available [8]. In conclusion good data collection along with well conversed team approach could provide a high quality treatment for such patients. Successful treatment of a fistula patient not only means closure of her fistula, but should incorporate a comprehensive treatment program aimed at achieving continence, mental and physical rehabilitation, and socioeconomic training and support.

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