

Urinary Bladder Injuries during Gynaecological Surgeries: A Retrospective 10 Years Analysis.

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Abstract

Aim and Objective: To study the Urinary Bladder injuries during gynaecological surgeries.

Material and Method: This was a study retrospective at GRMC Gwalior a analysis from Jan 2017 to Dec 2018 were carried out for VH, TAH, NDVH, Radical hysterectomy, myomectomy, vault prolapse, laparotomy (for cystectomy, salpingectomy, ectopic pregnancy), LSCS, and caesarean hysterectomy. As minor surgeries like MTP, encircilage, d&c carry minimal risk therefore they were excluded.

Results: As previously noted bladder injuries have higher prevalence than ureteric injuries.

Conclusion: Bladder injuries remain commoner than ureteric injuries. Careful counselling and consent should be made with good knowledge of genitourinary tract. Caution while Dissection, asepsis adherence, early detection of injuries to improve postoperative care.

Key Words: Urinary Bladder injuries, gynaecological surgeries, GRMC Gwalior.

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I. Introduction

In gynaecological surgeries due to close proximity of urogenital system; 75% injuries of urogenital tract encountered (1). In gynaecological surgeries bladder injuries more common in TAH. Injuries to the urinary bladder; upon encountering is treated by 2 to 3 layer closure by vicryl suture along with indwelling catheter for drainage of urine. Blue colour saline into bladder via retrograde technique helps in easy diagnosis (2). While operating; presence of bloody urine in urobag or gas in foley's bag signifies bladder injuries. Other signs are fluid pooling in pelvis or from secondary site of trocar there is drainage. When methylene blue dye is filled and no fluid come out of bladder but we are suspecting a bladder injury then cystogram should be carried out. Cystography is done for bladder injuries. When > 12 hours after laparoscopic surgery abdominal membranes irritation persists, then suspension of bladder injury (3,4,5). Previous radiation surgery, location of broad ligament fibroid or cervical fibroid or increase bleeding changes increases incidences of injuries (6). Therefore by analysing their information by periodic analysis of these injuries their incidence, trends, diagnosis and management can be made.

At GRMC Gwalior a retrospective analysis from Jan 2017 to Dec 2018 were carried out for VH, TAH, NDVH, Radical hysterectomy, myomectomy, vault prolapse, laparotomy (for cystectomy,

Alpingectomy, ectopic pregnancy), LSCS, and caesarean hysterectomy. As minor surgeries like MTP, encircilage, d&c carry minimal risk therefore they were excluded.

II. Method

Retrospective study

Sample size: thirty out of total 100 patients with bladder injuries were studied.

Diagnosis/Staging Iatrogenic injuries to bladder (7)

G1=contusion, intramural hematoma or partial laceration

G2=extraperitoneal bladder wall laceration <2cms

G3= extraperitoneal >2cms or intraperitoneal <2cms

G4=intraperitoneal bladder wall laceration >2cms

G5=intraperitoneal or extraperitoneal bladder wall laceration involving of bladder

{Urinary bladder injuries more common in LSCS or hysterectomy due to proximity to uterus. In our case Out of 60 LSCS no ureteric injuries noted in obstetrics surgeries}.

Bladder injury that is unrecognized in early postoperative period present with oliguria, vaginal leakage, urinary ascites, increase output from drainage sites and surgical incision. Laboratory diagnoses include increase creatinine and increase BUN.

A CT cystogram is done with 200cc of retrograde contrast which is water soluble filled via foley's which is then clamped extraperitoneal. When leakage of dye is restricted to lateral pelvic wall then it is extraperitoneal injury. For fistula diagnosis colovesical or enterovesical poppy seeds are used. Abdominal or pelvic CT is more precise for detecting fistulae (7).

III. Results

There was 1 injury of bladder in 6 cases of caesarean hysterectomy on posterosuperior surface 1/1 cm which was repaired in double layer with vicryl 2-0 and catheter was kept 10-14 days for every patient of injury. One case of obstructed labour had VVF due to bladder immersion in sutures of lower segment. It was diagnosed by cystography and repaired after 3 months. Gynaecological procedures prevalence of bladder injuries highest in Wertheim's (out of 6 cases 2 cases had injury followed by NDVH (out of 10 cases 3 cases), TAH (out of 18 cases 2 cases) VH (16 cases 1). Two bladder injury and one ureteric injury was noted in TAH. In vault prolapse, myomectomy no urological injuries were noted. In NDVH 1 injury was noted where patient present with VVF. It was a case of previous LSCS. Injury repair vaginally. In the case of ureteric injury in TAH; it was ureteric fistula identified on cystography and repaired BY STENTING.

As previously noted bladder injuries have higher prevalence than ureteric injuries (8). Twelve cases of bladder injuries out of which all were recognised intraoperatively excepting two. They presented in postoperative period with hematuria fever abdominal distension due to pyoperitonium or oozing of urine in peritoneum.

All intraoperative injuries were repaired primarily without any late sequelae. No SPC put in 2 cases and 1 case SPC put. SPC removed on day 14. One patient was referred from distal hospital with PPH perished due to poor hemodynamic condition.

Incidence of urological injuries in various types of surgeries :

Operation	Total no of cases	Bladder injury (n)	Ureteric injury (n)
TAH	18	2	1
NDVH	10	3	0
VH	16	1	0
Wertheim's Hysterectomy	6	2	0
LSCS	40	1	0
Caesarean hysterectomy	6	1	0
Myomectomy	2	0	0
Vault prolapse	1	0	0
Laparotomy	1	0	0

IV. Discussion

In our study bladder injury 12% and ureteric injury 1%. Due to close proximity of bladder and genitals predisposes to injuries. Owing to which uterovesical space has to be dissected caudally and carefully as there is increased scarring between pubovesical fascia and bladder base (9). In our study those where bladder injuries were identified postoperatively had repair with vicryl 2-0 with SPC insertion. Superior quality of life and lesser morbidity observed when intraoperatively corrections done (10). One bladder injury in case of obstetric hysterectomy is due to existence of blood in field. 6.1 % and 1.5% incidence of bladder and ureteric injuries as seen in other studies (11). Higher incidence of bladder injuries in literature for Wertheim's hysterectomy reported due to extensive pelvic adhesion, wider dissection and anatomy alteration owing to carcinoma (12). In open surgeries large no of cases with injuries were noted following NDVH% TAH % VH% Carey and associates have noted 0.58% bladder & 0.36% ureteric injuries post TAH and VH (13). Intraoperative injuries to ureter are not diagnosed as compare to bladder injuries. This related to literature where ureteric injuries were not identified intraoperatively (3). Large no of cases were managed by stenting now a days. When patient presents with fever, poor urine output, abdominal distension then speculation of ureteric injuries is made. Other technique involves nephrostomy and ureteric implants. One VVF was noted following NDVH. Scarring was a common cause of bladder injury following LSCS. Other takes (risk factor) are procidentia, non progress in second stage, cervical fibroid (14) Ureteric injury most common site being infundibulopelvic ligaments, lateral to uterine artery and uterovesical junction (15) in NDVH due to inadequate experience.

V. Conclusion

Bladder injury remain commoner than ureteric injuries. Careful counselling and consent should be made with good knowledge of genitourinary tract. Caution while Dissection, asepsis adherence, early detection of injuries to improve postoperative care.

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