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UROLOGICAL INJURIES FOLLOWING OBSTETRIC AND GYNAECOLOGICAL SURGERIES.

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ABSTRACT:

Object: To determine frequency, type, management & outcome of various urological injuries following obstetrical & gynaecological surgeries.
Design: A retrospective, descriptive study.
Setting: Departments of Gynae & Obstetric / Urology, Peoples university of medical & health sciences for girls Nawabshah.
Duration: 1st Jan 2007 to 31st Dec 2009.
Material and Methods: 30 females with age ranges from 17 to 60 years developed various urological injuries following obstetric and gynecological surgeries. Inclusion criteria were women underwent surgeries like caesarean sections, abdominal & vaginal hysterectomies. Exclusion criteria were genitourinary fistula due to malignancy, radiation & infections. The data was retrieved from the ward record on a proforma, & results were tabulated.
Result: The type of injuries were; Vesico vaginal Fistula 21 cases, Uretero Vaginal Fistula 3 cases, unilateral ureteric ligation 3 cases, & one each case of Bilateral ureteric ligation, Ureteral trans-section & Vesico uterine fistula.All patients of vesico vaginal fistula repaired abdominaly, & 7 patients with trigonal or more distally placed fistula were managed vaginaly. Out of these 7 patients fistula reccured in 3 patients in 5-7 days following surgery. They were treated later on. Surgery was successful in all cases of uretero vaginal fistula, & Vesico uterine fistula. All cases of ureteral ligation had a smooth post operative period and showed a perfect renal function at follow up IVU.
Conclusion: Injuries to urinary tract may occur during obstetrical & gynecological surgeries.
These iatrogenic injuries impose a great impact on physical & mental condition of patient & her family . Therefore it is mandatory for the obstetrician and gynecologist to pay careful attention to the anatomy of the urinary tract in order to avoid such iatrogenic injuries.

Key words: Iatrogenic urological Injuries, Obstetric & Gynecological surgeries.

INTRODUCTION:

Injuries to urinary bladder & ureter are not uncommon complication after obstetrical & gynecological surgeries[1,2,3]. Injury to urinary tract in medical practice was first described on 1030 AD in the opus called Al –Kanoun. It was earlier observed by Derry in the mummy of Henhenit who lived in the court of King Mentuhotep 11 on 2050 BC[4]. The estimated incidence of such injuries range from 0.4 to 2.5% for non malignant conditions [1,2,5].

The development of urogenital fistula & urinary leakage from vagina after surgery is the source of misery for the patient, with anxiety & sense of the failure for the surgeon. Development of anuria after surgery demand immediate attention to the patient[4]. Early diagnosis & in time management of these injuries greatly effect the outcome. Failed primary surgery produce anxiety for surgeon and social limitation & distress for the

patient due to urinary leakage[5].

Keeping all these facts in view we conduct the current study the frequency, types, management & out come of various urological injuries received in the department after surgery. The data in the study highlights the importance of careful surgery in order to avoid such iatrogenic injuries

MATERIAL AND METHOD:

During the study period 4488 cases were operated (table-1)& out of them 30 female with age range from 17 -60 years had different type of trauma to urinary bladder or ureters following surgeries like cesarean section & hysterectomies both abdominal &vaginal (table-2). These patients were managed in department of obstetrics & gynae /urological departments Peoples University of Medical & Health Sciences for Girls Nawabshah during 1st Jan 2007 to 31st Dec 2009 , all the data was collected on a proforma & results were tabulated.

PRESENTATION OF PATIENTS:

Patients with vesico vaginal fistula presented with total urinary incontinence 7 days to 1 year after offending surgery. Patient with uretero vaginal fistula presented 10 days to 2 years following offending surgery with history of continuous dribbling inspite of having normal voiding. Patient with unilateral ureteral ligation presented with loin pain and or cystic renal mass on affected side. Bilateral ligation produce anuria & were reffered within 24 hours. Patient of ureteral trans-section was diagnosed and managed during surgery.

DIAGNOSTIC WORK UP:

It includes careful history taking ,thorough physical examination including thorough vaginal examination , 3 swab & dye test were performed , ultrasonography of kidneys, ureters, and bladder ,plain x-ray examination, & intravenous urogram (IVU) were performed when indicated. Urethrocystoscopy was performed in all cases to see the size, site, and number of fistulae. Out of 21 vesico vaginal fistula 14 had supra trigonal & 7 had trigonal and sub trigonal fistulae .

In cases of uretero vaginal fistula, Ureteral canulation and or retrograde uretero pylography were done by ureteric catheter in cases of uretero vaginal fistula ,& cases of ureteral ligation to determine the site of ureteral injury .

MANAGEMENT:

Vesico vaginal fistula were treated with definitive repair in all cases, we follow the late repair concept, so deferred repair surgery until 10-12 weeks after offending operation who presented earlier.

14 cases of supra trigonal fistula were repaired abdominaly. 7 patients with trigonal & sub trigonal fistula were repaired through vaginal approach.

Out of 3 patients of uretero vaginal fistula 2 were left sided and one was right sided. Ultrasonography & cystoscopic ureteral catheterization done to determine the site of injury. In unilateral cases lower ureter was exposed by oblique inguinal muscle cutting incision of affected side and for one bilateral case midline incision was used.

One patient of ureteral trans-section on left side was detected during surgery & spatulated end to end anastmoses over D-J stent was done with 5/0 vicryl suture.

One patient with vesico uterine fistula was managed by careful dissection and closure of uterus with omental patch .

FOLLOW UP:

Patient were follow upto 6 months following definitive surgical correction of urological injuries. Follow up includes history taking, physical examination, USS, IVU and cystoscopy when indicated.

RESULT:

The type of injuries were; Vesico vaginal Fistula 21 cases, Uretero Vaginal Fistula 3 cases, unilateral ureteric ligation 3 cases, & one each case of Bilateral ureteric ligation, Ureteral trans-section & Vesico uterine fistula. All patients of vesico vaginal fistula repaired abdominaly were dry in immediate postoperative and subsequent follow up. 7 patient with trigonal or more distally placed fistula were managed vaginaly. Out of these 7 patients fistula reccured in 3 patients in 5-7 days following surgery. They were treated later on.

Surgery was successful in all cases of uretero vaginal & vesico uterine fistula .They was dry through out and their post operative IVU showed normal morphology & functions of upper tract. All cases of unilateral & bilateral ureteral ligation run a smooth post operative and showed a perfect renal function at follow up IVU.

DISCUSSION:

Our study includes only the patients due to obstetric &gynecological surgery. While genito urinary fistula due to any other causes were excluded.

There is a general agreement that when an advertent injury to bladder or ureter is detected during surgery, immediate repair is optimal treatment[1,5]. In contrast when is delayed some prefer an immediate repair while other prefer repair to be delayed[1,5,6]. The classical procedure is to delay repair for several months preferably 3-6 month & to attempt a definitive repair[1,6,7]. This policy was

TABLE:1
MAJOR OBSTETRIC AND GYNAECOLOGICAL PROCEDURES PERFOMED DURING YEAR 2007 TO 2009

YEAR	CESAREAN SECTION	HYSTRECTOMY Abdominal Including cesarean Hysterectomy	Vaginal	TOTAL
2007	1250	90	48	1388
2008	1208	150	60	1418
2009	1440	152	90	1682
GRAND TOTAL	3898	392	198	4488

TABLE -2:
TYPE OF URINARY TRACT INJURIES WITH THEIR OFFENDING SURGERIES. (n=30)

Type of injuries	Offending sugeries			
	Abdominal Hystrectomy	Caesarean Section	Vaginal Hystrectomy	Percentage (%)
Vesico vaginal Fistula	12	08	01	70
Uretero vaginal Fistula	02	01	00	10
Ureteral Ligation				
Unilateral	02	01	00	10
Bilateral	01	00	00	3.33
Ureteral Trans-section	01	00	00	3.33
Vesico Uterine Fistula	00	01	00	3.33
Total	18	11	01	30(100%)

adopted in our series. This delay gives the edema of demaged tissue to subside, fibrosis to delineate & inflammatory elements to disappear[1,6]. Though there has been a tendency towards early repair to 4-6 weeks after injury[3,5,6,7,8]. Intra operative correction carries less morbidity & provide better quality of life[9] This notion was beautifully coined by Higgins who stated the venial sin in injury to ureter, but mortal sin is failure of recognization.[10]

21 (70%) of patient of this group had VVF. The commonest site is vaginal vault & posterior bladder wall as this is the usual site of bladder injury during abdominal hysterectomy, similar results have been mentioned in international studies[1,5].

Nearly all gynecological procedure cause ureteric injury with an incidence of 0.4-2.5%[1,2,11]. Ureter Injury is the most common complication of gynaecological surgery. Intra operative injury to ureter is possible not only during complicated surgical procedure but also during uncomplicated surgery.[12]Such complications can occur even in the hand of experienced surgeons .[13] In our study ureteric injuries were 5(16.66%) which is greater than published studies.The left ureter is more liable to injury as it is much closer to the cervix than the right ureter ratio is 2:1[1,5,9], our study shows the similarity in results with other workers. Uretro vaginal fistula developed in 3(10%). For uretero vaginal fistula we performed definitive surgery at least 10 week following offending operation & excellent results were obtained in all cases of our cases of our study. our study agree with other published results [1,2,3,7,14,15].

Unilateral ureteral ligated patients 3 (10%) were presented to us atleast 3 month after injury. Though some author suggest initial per cutaneous nephrostomy (PCN) in unilateral cases to relieve pain and protect renal function, before definitive surgery[1,3,7]. Definitive procedure was performed directly without prior drainage procedure in our study. Patient of unilateral ureteric ligation showed a excellent result in our series.

They were alright symptomaticaly & their functions were perfect on follow up investigations.

Vesico uterine fistula is one of the least common type of urogenital fistula. It is only 1 (3.33%) case in our study. The incidence of such fistula in other series is 1.3 to 1.7%[1,8,9]. The patient cured of the fistula after repair.

CONCLUSION:

The frequency of urological injuries was 0.66% , among these the most common type was vesicovaginal fistulae, all the cases were successfully treated by surgery. As these injuries are preventable there fore it is mandatory for gynecologist & obstetrician to pay careful attention to the anatomy of the urinary tract and catheterization of the bladder prior to abdominal or vaginal operation on pelvic organ in order to avoid such iatrogenic injuries, .

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