

# URETERO-NEO-CYSTOTOMY (EXTRA PERITONEAL APPROACH)

(A Review of Five Cases)

by

A. K. SARADA,\* M.D., D.G.O.

and

B. MUKERJEE,\*\* M.D., D.G.O.

## Introduction

Uretero-vaginal fistula is the most distressing and annoying complication following obstetric and gynaecological surgery. This is a review of five cases of uretero-vaginal fistulae repaired successfully by the extraperitoneal approach. Uretero-neo-cystotomy was done in all cases as the injury was found involving the terminal part of the ureter.

## Analysis of Cases

All cases followed either obstetric or gynaecological surgery (Table I).

cystoscopy and I/V urogram. In one case a combined vesico-vaginal fistula was seen.

In all cases during operation the terminal 2-3 cms. of ureter was found to be involved and ureter-neo-cystotomy was performed. Two cases reported for follow up after 3 months and I/V urogram done showed functioning kidneys and ureters.

## Technique of Operation

### Incision

Both transverse abdominal incision and

TABLE I  
Aetiology

Type of Surgical Interference	Indication	No. of cases
Sub-total hysterectomy	Rupture uterus	2
Lower segment caesarean	Obstructed labour	1
Ovariectomy	Benign ovarian cyst	1
Forceps	Prolonged labour	1

Age varied from 24 years to 38 years. Four of the women were parous. One occurred in a nullipara. Diagnosis was made by clinical examination, dye-test,

paramedian incision cutting the previous scar were tried. The ureter was approached extraperitoneally and traced from the site where it was lying over the psoas muscle. In all cases the ureter was found to be affected in the terminal 2-3 cms. The ureter was mobilised as far as possible and the proximal end cut. The lower end was ligatured with catgut. The bladder was exposed extraperitoneal-

\*Associate Professor, Department of Obstetrics and Gynaecology, Medical College, Calicut.

\*\*Associate Professor, Department of Obstetrics and Gynaecology, Medical College, Calicut.

\*Now Professor of Obstetrics and Gynaecology, Medical College, Kottayam.

ly and the wall of the bladder was incised for 4 cms. longitudinally on its peritoneal surface. Through this a forceps was passed and made to project on the retro-peritoneal surface just above the original ureteric opening. This was selected as the site for the implantation. The point of the forceps was cut down and the forceps pushed through this opening. The end of the cut ureter was secured with a 00 catgut and the catgut was pushed through this opening. A small incision 1-1.5 cms. was made about 2 cms. below the opening in the bladder mucosa and a submucosal tunnel raised. The ureter was pulled through this tunnel and a mucosal to mucosal anastomosis done with 00 catgut. A polythene ureteric catheter was then passed up for 15 cms. into the ureter and the other end threaded through a Malecot catheter. The bladder incision was closed in two layers leaving the Malecot catheter to be brought out through a suprapubic opening to set up a suprapubic drainage. A Foley's catheter was then put into the urethra. The abdominal wound was closed after putting a drain.

Postoperatively continuous drainage of ureter and bladder were maintained for 7 days, after which the ureteric catheter was removed. The suprapubic drainage was removed on the 10th day and bladder drainage was continued for 14 days.

#### *Difficulties met with during and after the Operation*

1. Difficulty in identifying the ureter. Tracing the ureter from the site where it crosses the psoas muscle helps to identify the ureter easily.

2. Injury to the peritoneum. This happened while tracing the ureter in cases where it was badly adherent. All puncture points were sutured with fine catgut before proceeding.

3. Significant haematuria was seen in the postoperative period which cleared up by the 5th day.

4. The suprapubic opening leaked for a few days after removal of the Malecot catheter and this was prevented to a great extent by maintaining a good urethral drainage.

#### *Discussion*

Uretero-vaginal fistula has been reported in literature by both Indian and Western gynaecologists as the rare variety of genital fistula. Bhaskar Rao (1975) reports an incidence of 1.7%. Ertugnul and Cevat (1965) report an incidence of 2.1%. Our incidence is comparatively higher coming to 5.1%. The Calicut Medical College Hospital drains a wide area of rural population, 90% of them belong to the Muslim community. They belong to high parity group and are still ignorant and careless of the basic need for antenatal care and hospital delivery. This may account for the high incidence of obstetric complications and its sequelae.

Ureteric injuries are caused by direct trauma inclusion in ligature, crushing with clamp and a vascular necrosis. Racker and Braithwaite (1951) emphasised that necrosis of ureteric wall due to interference with blood supply was a major cause than direct trauma. The blood supply to the terminal ureter is rich but if the ureteric branch of the uterine, inferior vesical and internal iliac arteries are divided during operation necrosis of the wall of the lower part of ureter may follow because there may not be sufficient anastomotic supply from above to compensate for this and ureteric fistula result. In our series in one case the ureter was found caught in a ligature. In all other cases avascular necrosis was considered as the cause for fistula forma-



tion. The surgical technique of repair depends upon the site of injury and extent of damage to the ureter. In our series the terminal 2-3 cms. was the site of involvement of the ureter, and we were able to attempt uretero-neo-cystotomy in all the cases. The extraperitoneal route was found to minimise the postoperative complications due to spill of urine into the peritoneal cavity.

*Summary*

1. Five cases of uretero-vaginal fistulae treated by extraperitoneal uretero-neo-cystotomy are described.

2. Four cases followed obstetric operations and one gynaecological surgery.

3. In all cases the terminal part of the ureter was found involved, so uretero-neo-cystotomy was done.

4. A brief description of uretero-neo-cystotomy is given.

5. I/V urogram done in two cases following three months showed functioning kidneys and ureters.

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