STUDY OF URINARY TRACT CHANGES IN THIRD DEGREE PROLAPSE

by

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Obstructive lesions of the urinary tract with third degree uterine prolapse or procidentia have been pointed by Halban and Tandler (1923), Parikh and Parikh (1966), Elkin *et al* (1974) and Jones and Evison (1977).

Hence this study has been carried out to find out obstructive uropathy in 3rd degree genital prolapse and to observe reversibility after operative procedures for prolapse.

Material and Methods

Twenty cases of 3rd degree uterine prolapse with marked cystocele and rectocele were selected for this study. Detailed history was taken with special reference and as to the duration of prolapse and associated urinary symptoms as shown in Tables I and II. Preoperative I.V.P. and postoperative I.V.P. after 3 months of surgery was done including routine preoperative investigations.

Age and parity had no relationship.

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TABLE I
Duration of Symptoms

	Duration	No. of cases
1.	3- 6 years	12 (60.0%)
2.	7-10 years	8 (40.0%)

TABLE II
Symptoms

S. No.	Symptoms	No. of Cases	Percentage
1.	Frequency	12	60.0
2.	Stress	2	10.0
3.	Hesitancy, Frequency and Stress	4	20.0
4.	Retention and Frequency	2	10.0

High proportion of cases were unrelated to the duration of prolapse as shown in Table I. Different urinary symptoms were present as shown in Table II. Urine culture was positive in 80.0% and raised blood urea in 15.0% of cases as shown in Tables III and IV respectively.

TABLE III
Culture Findings

S. No.	Culture	No. of cases
1.	Sterile	4 (20.0%)
2.	E. Coli	16 (80.0%)

TABLE IV
Blood Urea

	No. of cases
1. Normal (30 mg/100 ml)	17 (85.0%)
2. Raised	3 (15.0%)

The radiographs were evaluated into Grade I, II and III like Jones and Evison (1977) as shown in Table V. Grade 0 changes were considered as normal.

TABLE V
Degree of Hydronephrosis
(Jones & Evison 1977)

1. Grade I	Bluting of minor Calyces with normal ureters
2. Grade II	Moderate Distension of Calyces, Renal Pelvis and Ureters
3. Grade III	Severe Pelvi-Calyceal and Ureteric distension

Results

Preoperative radiological apearances studied are shown in Tables VI and VII. Twelve patients (60.0%) had different grades of hydronephrotic changes (Figs. 1 and 3) and 8 patients had normal urinary tract. Descent of bladder was seen in 80.0% of cases.

TABLE VII
Preoperative Radiological Appearances of Ureters

	No. of cases
Hydroureter Right	12 (60.0%)
Hydroureter Left	11 (55.0%)
Descent of Bladder	16 (80.0%)

TABLE VIII
Type of Repair

Method	No. of cases
1. Vaginal hysterectomy with posterior colpoperineorraphy	16 (80.0%)
2. Manchester repair	4 (20.0%)

After surgery all Grade I and II changes regressed as shown in Table IX and Figs. 2 and 4. While Grade III changes affecting right kidney and ureter involving two cases regressed to Grade II changes. Out of 3 cases involving left kidney and ureter, 2 regressed to Grade

TABLE VI
Preoperative Radiological Appearances

Site	Grade I	Grade II	Grade III	Grade 0	Total
Right Kidney and Ureter	4(20.0%)	6(30.0%)	2(10.0%)	8(40.0%)	20
Left Kidney and Ureter	4(20.0%)	4(20.0%)	3(15.0%)	9(45.0%)	20

TABLE IX
Postoperative Radiological Appearances (12 Cases)

Site	Grade I	Grade II	Grade III	
Right Kidney and Ureter	4——0	6——0	2	II
Left Kidney and Ureter	4——0	4——0	3-1	I

0 and one to Grade I. X-Rays were repeated after 3-4 months of surgery.

Discussion

The obstructive uropathy in genital prolapse is well known as dilatation of upper urinary tract occurs secondary to the prolapse of uterus. 60.0% of our cases had different grades of hydronephrotic changes. Such changes have been studied by different authors shown in Table X. Behlo *et al* (1973) have observed hydronephrotic changes in 28.5% of cases but study has been done in different cases of prolapse, whereas Elkin (1974), Jones and Evison (1977) including present series have done in procidentia and 3rd degree of prolapse respectively. It is usually the lower ureteral obstruction caused by displacement of trigone and bladder base either results in kink or stretching of intramural ureter. There is slow progressive dilatation of ureter and renal pelvis without much renal damage, but in some patients obstruction may be rapid causing renal damage. The infection due to obstruction is also an additional factor in causing renal damage. There is still dispute on the mechanism of production of obstructive uropathy as studied by Wallingford (1939), Roberts (1953), Elkin *et al* (1974), Jones and Evison (1977) and Gregoir *et al* (1977). These observations emphasize the importance of urographic evaluation in patients with uterine prolapse.

TABLE X
Comparative Study of Hydronephrosis

Author	Total No. of cases	Hydronephrotic changes with %age
1. Behlo *et al* 1973	76	20 (28.5%)
2. Elkin *et al* 1974	19	15 (83.0%)
3. Jones and Evison 1977	18	10 (55.5%)
4. Present series 1978	20	12 (60.0%)

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See Figs. on Art Paper II-III