EFFECTS OF GENITAL PROLAPSE ON URETERS AND KIDNEYS

by

MALATI L. SHOLAPURKAR

SUMMARY

Effect of genital prolapse on ureters and kidneys was studied in 60 cases by intravenous pyelography. In 29 out of 60 cases (48.33%) some anatomical changes were noticed.

Hydroureter was noticed in 33.33% cases and hydronephrosis in 23.33% cases.

I.V.P. changes were directly related to degree of prolapse/ cystocele and duration of prolapse.

Incidence was found more in post-menopausal patients. Age and parity had no relation to the changes.

Kidney function was found affected in 6.66% cases and pre-operative urine cultures were positive in 20% of cases studied.

Preoperative evaluation of urinary tract status is therefore advisible to avoid unforeseen complications, so also timely treatment of genital prolapse.

Introduction

Genital prolapse is a common gynaecological complaint. Urethra has firm connection with lower 1/3 of vagina and there is a definite though loose contact between bladder on one side and the upper 2/3 of vagina and uterus on other side.

Genital prolapse therefore affects bladder and urethra primarily and ureters and kidneys are involved secondarily.

When uterine prolapse is marked, the uterine vessels are displaced to a lower level. A big cystocele pulls the ureter which will kink as it passes underneath the vessels. Some believe that kinking of the ureter occurs at its point of crossing the genital hiatus.

Urinary symptoms like frequency, urge, dysuria etc. indicating involvement of urinary tract are often associated with genital prolapse.

In the present study effects of marked genital prolapse on ureters and kidneys were studied by intra-venous pyelography.

Cystourethrographic studies are not included. Evidence of reversibility of changes after operation by repeat I.V.P. was not possible because of difficulty in follow up of cases and cost of I.V.P.

Material and Methods

Sixty cases of 3rd degree uterine prolapse—procedentia with cystocele/recto-

From: Department of Obstet. and Gynaec., Dr. V. M. Medical College and General Hospital, Solapur.

Accepted for publication on 23-4-86.

cele for a period of more than 1 year were included in the study. Detailed history was obtained and a thorough general and local examination was done. Besides routine blood and urine examination, blood urea, serum creatinine, urine culture, measurement of residual urine, etc. were done in all cases. Plain X-ray abdomen was taken, 20 ml of conray was injected intravenously and pictures taken at 5 minutes, 15 minutes, 30 minutes interval to study changes in the ureter and renal pelvis and its relation to kidney function.

Observations

The study included 61.66% (37) cases above the age of 40 years. Fifty-three 88.33% had third degree prolapse and 11.66% (7) cases had procedentia. Cystocele was of severe degree in 60% (36) cases. As seen from Table I residual urine was abnormal (40 ml to 100 ml) in 6.66% (4) cases. Preoperative urine culture was positive in 20% (12) cases. The infecting organisms were Klebsiella (3); Citrobactor (2); E. Coli (2); Staphylo. Coag. positive (2); and mixed organisms (3) cases.

Blood urea and serum creatinine were abnormal in one case only (1.66%).

Table II shows various findings on I.V.P. study. Hydroureter occurred in 33.33% (20) cases and hydronephrosis in 23.33% (14) cases. Kinking of ureter at its lower end was noticed in 2 cases. Bilateral duplication of renal pelvis was present in 1 case and there was a double ureter present on one side in one case.

TABLE I
Results of Investigations Other Than IVP

Type of investigation	Normal findings	Abnormal findings No.	%age
(a) Residual urine	56	4	6.66
(b) Preoperative microscopic examination of urine	46	14	23.33
(c) Preoperative urine culture	48	12	20.00
(d) Post-operative microscopic examination of urine	40	20	33.33
(e) Blood urea/serum creatinine	59	1	1.66

TABLE II
I.V.P. Findings

Findings	Unilateral	Bilateral	Total	%
Kinking of ureter	2	—	2	3.33
Hydroureter	3	17	20	33.33
Hydronephrosis	4	10	14	23.33
Ptosis of kidney	4	1	5	8.33
Chronic pyelonephritis	6	1	7	11.66
Delayed concentration of dye	2	1	3	5.0
Double ureters/Double renal pelvis	1	1	2	3.33
Total	22	31	53	

Total No. of cases showing I.V.P. changes = 29

Total 29 cases out of 60 (48.33%) showed some anatomical changes in I.V.P. study.

Table V shows relation of positive I.V.P. findings to various factors associated with genital prolapse. It is seen that degree of prolapse/degree of cystocele, duration of prolapse and menstrual status of the patient contribute more to I.V.P. changes. While age and parity are not significant factors. More percentage of cases with urinary symptoms showed changes as compared to those without symptoms.

Discussion

Virchow (1846) first described hydroureter and hydronephrosis in cases of genital prolapse. In the present study anatomical changes in ureter/renal/pelvis were seen in 45.28% (24) cases of III° prolapse and in 71.42% (5) cases of procedentia.

Rahlo (1973) reported such changes in 52% of cases of III° prolapse and 71.4% cases of procedentia.

I.V.P. changes in ureters/kidneys appear to be directly proportional to degree

TABLE III
Relation of IVP Changes to Various Factors

Different factors	No. of Pts. in the Group	No. showing I.V.P. changes	%
(a) *Age group*:			
Below 40 years	23	11	47.82
41 years and above	37	18	48.64
(b) *Parity*:			
0-3 children	21	10	47.61
4 and more children	39	19	48.71
(c) *Menstrual status*:			
Premenopausal	30	13	43.33
Postmenopausal	30	16	53.33
(d) *Duration of prolapse*:			
1 to 5 years	32	13	40.62
More than 5 years	28	16	57.14
(e) *Degree of prolapse*:			
III° prolapse	53	24	45.28
Procedentia	7	5	71.42
(f) *Degree of cystocele*:			
Mild/Moderate	24	8	33.33
Severe/Marked	36	21	58.33
(g) *Urinary symptoms*:			
No urinary symptoms	28	9	32.14
With urinary symptoms	32	20	62.5
Total	60	29	48.33

of prolapse/cystocele and duration of prolapse and not related to age and parity of the patient.

Incidence of I.V.P. changes was found more amongst post-menopausal patients in the present study. As such hormonal status of the patient may be a contributory factor affecting tone of ureteric muscles. Hydroureter was noticed in 33.33% cases and hydronephrosis in 23.33% cases in the present study. Bhatt has reported hydronephrosis in 42% cases of procedentia. Affection of kidney function as judged by blood urea, serum creatinine level and delayed excretion of dye in I.V.P., was noticed in 6.66% (4) cases in the present study. Residual urine was found abnormal in 4 cases (6.66%). Bhatt reported residual urine more than 2 ozs in 11.9% cases of procedentia. Preoperative urine cultures were positive in 20% cases in this series as compared to 30% cases reported by M. Verma and Agarwal.

In view of the above observations, proper investigations to evaluate the status of urinary tract are advised prior to surgical treatment. Efforts should be made to prevent prolapse by instituting good midwifery services and also for early detection and timely treatment of genital prolapse.

Acknowledgement

I thank the Dean, V. M. Medical College, Solapur, for permitting me to carry out the study and to use hospital records and publish this paper.

References

1. Bahlo, T.: J. Obstet. Gynec. India. 23: 342, 1973.
2. Bhatt, R. V. (1961): J. Obstet. Gynec. India. 12: 278, 1961.
3. Klempner, E.: Amer. J. Obstet. Gynec. (1962): 64: 1232, 1952.

See Figs. on Art Paper IV, V