TUBELESS AND STENTLESS PYELOPLASTY

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ABSTRACT

Objectives: The aim of this study was to study cases of ureteropelvic junction obstruction undergoing open pyeloplasties without any stents and tubes.

Material and Methods: The techniques of operations designed in the present study were 88 Anderson Hyne’s pyeloplasties, 22 Foley Y-V Plasty, 24 Culp, Deweered and the rest of the 16 cases Scardino-Prince flap pyeloplasties.

Results: 142 (95%) of cases had improvement in symptoms and renal functions while there was failure in 8(5%) of cases.

Conclusion: It is concluded that stents and nephrostomy tubes are not needed in patients except in those undergoing secondary repairs or having inflammation.

Key words: Open pyeloplasty, Nephrostomy tubes or stents.

INTRODUCTION

Twentieth century has seen great enthusiasm in the techniques used for surgical conservation of renal tissue. Ultimate repair as opposed to nephrectomy is especially important for children and young adults with a long life expectancy.

There is a great potential of recuperation in young kidneys after successful pyeloplasty. Hence, nephrectomy should be considered only in irreparable unilateral renal damage or in very elderly. For the uncomplicated pyeloplasty in adults, there appears to be no advantage to selecting both a nephrostomy and a stent as these may result in prolonged hospital stay and a higher incidence of infection.² Although the use of small non reactive tubes as ureteral stents along with nephrostomy tubes has been recommended,³,⁴,⁵ However controversies exists throughout the literature for abandoning ureteric stents and diversion of urine.⁶ The study was conducted to document the results of patients undergoing open pyeloplasties without stents and tubes.
MATERIAL AND METHODS

150 patients underwent open pyeloplasties over a period of 7 years at Postgraduate Medical Institute Peshawar. The mean age of the patients was 21.83 years with range of 2 1/2 - 60 years. (Fig-I) The male to female ratio was 3.4:1.

Essential investigations were done to determine:

1. The degree of obstruction.
2. The extent of renal damage.
3. The site and length of obstruction;
4. The presence or absence of infection or stones;
5. The status of contra lateral kidney.

Surgical techniques were aimed at:

1. Formation of a dependant uretero pelvic junction;
2. Elimination of obstruction, kinks and folds;
3. Excision of redundant renal pelvis.

Types of surgical techniques were decided mostly on excretory urography. 88 cases under went Anderson Hyne’s pyeloplasty with redundoplasty, 22 Foly Y-V plasty where the ureter was inserted high, 24 cases underwent Culp-Deweerder pyeloplasty while in the remaining 16 cases Scardino Prince vertical flap pyeloplasty was performed. (Figs.-II, IV) Suture material used for the repair of ureter and pelvis was 4/0 catgut in all cases. Both interrupted and continuous sutures were applied in different situations. Polythene drains were used for 24 to 48 hours in all cases.

Complications

- Infection: 4
- Persistent symptoms: 4
- Prolonged drainage: 6

Fig.-II

Procedures

Fig.-IV
Bilateral disease was present in 18% of cases. Rt sided involvement in 29% of cases and the Lt side was involved in 53%. (Fig.-III) Cases of unilateral hydronephrosis considered for repair were mostly young. Renal function assessment was made by excretory urography and radioneuclide renal scan. Follow up assessment was also done by radioneuclide renal scan.

RESULTS

Out of 150 cases 8 patients (5%) were considered as failure. Another 6 patients had prolonged drainage but follow up renal scan results were satisfactory and the patients were having no symptoms. Among the 8 patients 4 were having persistent infection with deterioration of renal functions and they ultimately ended up with nephrectomy. In the other four patients the symptoms persisted and they were kept under surveillance for serial renal scans to monitor any reduction in renal functions. Two of them had nephrectomy performed for the failure of procedure. 142 (95%) cases remained symptom free post operatively and their follow up renal scan at 3 months interval showed stability and improvement of renal functions. (Fig.-V) In cases where excretory urography was performed post operatively as follow up, there were residual hydronephrotic changes. This finding was in correlation with the suggestion of William R; Smart; 1976;7 that in cases of hydronephrosis with cortical atrophy, the pelvicalyceal pattern as seen on post operative pyelography, may never return to normal despite a satisfactory clinical recovery.

DISCUSSION

The fear of complications from stents and nephrostomy tubes were expressed by8,9 Wollin et al.,1 also showed the same reservation about stents and nephrostomy tubes. Most Pediatric Urologists now believe that routine use of stents and Nephrostomy tubes is no longer indicated. Rather, such diversion is reserved for complicated cases such as those involving secondary repairs or active inflammation.10,11,12,13 We also reported in 199413 that stents and tubes are not routinely needed in pyeloplasty.13 Culp6 has stated, “of late there has been increasing enthusiasm throughout the literature for abandoning ureteral splints and diversion of urine. The desirability and results of such innovation cannot be questioned. But the wisdom of abruptly discarding all tubes in all cases must be viewed with skepticism.

Just as splinting unquestionably entails certain hazards, so does absence of splinting and of urinary diversion. While it is obvious that tubes are not necessary in all cases, selection of appropriate candidates for tubeless methods continues to be a major challenge. However we are impressed with the pioneer works in the field of tubeless pyeloplasties, and the fears of increased complications associated with stents and tubes, we considered this study without using ureteric stents and nephrostomy tubes. The aim of surgical intervention for hydronephrosis is to relieve symptoms, decrease postoperative morbidity and improvement in renal functions.14

Preoperatively in our patients all (150) had symptoms. Postoperatively only 14
(10%) patients had complications and 8
(5%) patients were considered as failure.
In the remaining 6 patients prolonged
drainage did not affect the renal func-
tions and the patients improved symp-
tomatically. The success rate was 95% in
this study. These results are comparable to
those published in the literature.13,16 These
studies also report success in 90-95% of cases.

As a conclusion of the present study
and a review of literature, this is our
impression that stents and tubes are not
needed if postoperatively there is:

1. Adequate pelviureteric flow of urine.
2. Non obstructive ureteropelvic alignment.
3. Normal ureteric caliber and control of
infection.

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