



ORIGINAL RESEARCH PAPER

STUDY OBSERVING ASSOCIATION OF DECREASED SPLIT RENAL FUNCTION AND OUTCOME IN ADVANCE BENIGN RENAL DISEASES WITH CORRECTIVE SURGICAL INTERVENTIONS

General Surgery

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ABSTRACT

Aim- To study the outcomes of corrective surgical interventions in advanced advanced kidney disease with poor functioning of kidneys with Split Renal Function <30% in terms of improvement in renal function and patient's symptoms. **Method-** study is to be conducted on patients admitted in Department of Surgery, J.A. Group of Hospitals, Gwalior during a period for one and half year after taking well informed and written consent from the patient with minimum of 30 patients. **Result-** Corrective therapeutic intervention obstructed poorly functioning kidneys secondary to advance benign conditions have minimal complications and acceptable favourable outcomes. **Conclusion-** This study entitled outcomes of corrective surgical interventions in obstructed poorly functioning renal units secondary to benign causes is a prospective study and is conducted for 2 years from October 2020 to October 2022. preoperative and postoperative SRF and symptoms were compared. On the basis of obtained results from this study we summarize that SRF in poorly functioning renal disease <30%.

INTRODUCTION

Obstruction due advance benign renal diseases , renal stone, ureteric stone or ureteric stricture, PUJ obstruction may lead to impairment of renal function.

There is a difference of opinion among the authors as to what cut off value of split renal function is to be taken for calling a renal unit as poorly functioning. The results of reconstructive procedures in poorly functioning kidneys secondary to upper urinary tract obstruction have traditionally been considered poor. Reconstructing such kidneys, especially those with split renal function of <30%, is fraught with non-recoverability of renal function, reinterventions and failure, more so in the adult patients.

Usually in obstructed poorly functioning kidneys secondary to benign diseases most surgeons perform nephrectomy when split renal function is <30% the other renal unit is normally functioning.

The purpose of the study is to see the outcomes of corrective surgical procedures to relieve obstruction in renal units which are poorly functioning renal units (SRF<30%).

In this study we plan to preserve obstructed poorly functioning renal units by performing surgical procedures (open/ laparoscopic/ endourological procedures like pyelolithotomy/ ureterolithotomy/ PCNL/ URS) to relieve obstruction (due to stone in pelvicalyceal system or ureter, ureteropelvic junction obstruction or ureteric stricture) with or without prior urinary diversion through percutaneous nephrostomy or DJ stenting, associating Study with Improvement of renal function. Improvement in pain and other symptoms. Perioperative complications and assess the factors which may be responsible for no improvement of renal function.

Aim

To study the outcomes of corrective surgical procedures in obstructed poorly functioning kidneys with with advance benign renal conditions with Split Renal Function <30% at midterm follow -up in terms of improvement in renal function and patient's symptoms.

To study the peri-operative complications in these patients.

Study the effect of surgical interventions in patients of advance benign renal diseases with split renal function < 30%, A prospective observational Study.

METHOD-

After obtaining approval from ethical committee, the present study is to be conducted on patients admitted in Department of Surgery, J.A. Group of Hospitals, Gwalior during a period for one and half year after taking well informed and written consent from the patient. With a minimum of 30 patients.

Study Design: Prospective Observational study

Source Of Data: Patients diagnosed with obstructed poorly functioning kidney secondary to benign causes (stone in renal pelvicalyceal system or ureter, pelvi-ureteric junction obstruction and ureteric stricture attending the outpatient department and getting admitted to surgical/ urology wards, J.A. Group of Hospitals, Gwalior.

Inclusion Criteria

All consecutive cases of advance benign diseases of kidney urinary tract obstruction (pelvi-ureteric junction obstruction, ureteric stricture /obstructing calculus in pelvicalyceal system or ureter). with ipsilateral split renal function of Participant or a family member must be willing to give written and informed consent.

Excluded Pts

Patients with previous failed upper tract surgery, solitary kidney, congenital renal/ureteric abnormality and chronic kidney disease. Patient of poorly functioning kidney secondary to malignancy. Patients not giving written/ informed consent. The patients lost to follow up.

Method Of Collection Of Data:

The present study is prospective observational study. A detailed history of all the registered patients was taken. A well informed/written consent was taken from all patients before subjecting them for study. Patients with obstructed poorly functioning kidneys secondary to benign causes was included.

Preoperative Workup:

Hemogram, renal function test, urine routine and culture, intravenous urography, or non -contrast CT with CT urogram and DTPA Scan Corrective reconstructive surgeries were performed by open, endourological techniques by experienced urologist.

Statistical Analysis

The data will be presents as mean +/-Standard test.

The qualitative data will be compared using chi square test.

The quantitative data will be compared using student's t test.

The level of significance will be taken at 5%.

The collected data will be analysed using SPSS software.

RESULTS

A split function of less Than 30% with timely intervention in benign renal diseases leads to better outcome with decreased complications.

Early surgery has been recommended to achieve renal recovery ,that following pyeloplasty both infants and those below 1 year of age demonstrate significant improvement compared to older children. Postoperative DRF could reach a normal value (over 40%) only in those below 1 year of age. They concluded that the potential recovery of the kidney depends on age, Our observation of an improvement in DRF .

Our study comprised only adults and the changes in postoperative per cent split renal function were not affected by the age at surgery. The patient's age was not predictive of the potential for improvement in our study. Older age did not preclude the possibility of improvement after pyeloplasty. In our study 42.4% of cases belongs to age group of 15-29 years, 27.2% of cases belongs to 30-44 years of age group, 27.2% cases fall under 45-59 years age group while 3.035 of cases comes under 60 years and above age group with mean age of 34.42 years.

In our study most common (75.75% cases) presenting complaint was abdominal pain and second most common (15.15% cases) complaint was burning micturition and 9.09% cases presented with both symptoms. Postoperatively 9.4% cases had pain in abdomen during follow up periods of less than 4 weeks and 3.1% cases had pain in abdomen during follow up periods of more than 4 weeks.6.3% of cases had complaints of burning micturition while 84.4% of cases do not have any complaints in follow up period of less than 4 weeks and burning micturition, during follow up period of 4 weeks 93.8% of cases do not have any complaints. Clark and Malek et al have 95% success in resolution of clinical symptoms and 91% success in decompression of pelvicalyceal system on urography after 3 one surgical repair. renal pelvis found that obstruction persisted on diuretic renography in most cases (65%), but improvement in hydronephrosis occurred in all patients. They defined success as both symptomatic relief and radiographic resolution of 8 obstruction In our study total no cases of pfk was 33. Mean of <10% SRF was 7.79 ± 1.17 preoperatively and 3.33 ± 5.77 postoperatively. Mean of 10-20% SRF was 15.27 ± 3.60 preoperatively and 20.66 ± 11.10 postoperatively. Mean of 20-30% SRF was 19.35 ± 6.72 preoperatively and 23.5 ± 11.05 postoperatively. postoperatively. P- Value of change in SRF was 0.012 which was significant. 1 case lost to follow up and 1 case underwent for nephrectomy.

The outcomes of reconstructive procedures in upper urinary tract obstruction are often considered to be poorer in poorly functioning kidney.

Aim of surgery in upper tract obstruction is to achieve non obstructive possible, regain the lost renal function.

A split Renal function with less Than 30%, with advance renal disease when taken to corrective surgical procedures achieves

significant improvement in Renal function.

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