

# Efficiency of Gil-Vernet Antireflux Surgery in Adults

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## Abstract

**Background:** In this study the results of Anti-reflux surgery was evaluated in adult patients retrospectively. **Method and patients:** Between 2001 and 2008, 18 patients (15 women and 3 men; median age 25. 5) had Gil-Vernet Anti-reflux surgery (11 unilateral and seven bilateral ureteric units). The VUR grades were I, II, III,IV and V in 5, 4, 9, 5 and 2 ureteral units. The main indication for surgery was recurrent pyelonephritis. During this study the success rate of surgery was evaluated. **Results:** The median period of follow-up was 9. 5 months. 20 ureteral units (80%) showed complete cure and 4 ureteral units (16%) showed partial cure. There were some signs of neuropathic bladder in 3 case of patient with no response to surgery. **Conclusion:** the Gil-Vernet Antireflux surgery is recommendable in adults but we suggest careful evaluation of patients with signs or symptoms of neurogenic bladder.

## INTRODUCTION

Urine Backflow from the bladder into the ureter (vesicoureteral reflux ) is one of the most common disorders of children that a pediatric urologist deals with it. It has the general incidence equal 1-18. 5%. 50-70% of infants and 8% of adults with bactriuria have vesicoureteral reflux.

Most of primary refluxs in children can be regressed spontaneously. The regression rate depends to primary grade of reflux and age of patient and symptoms at diagnosis. 80-90% of grade 1 and 2, 50% grade 3 and 9-30% of grade 4-5 within 5 years have spontaneous regression (1). Reflux in younger children may regress in early years and more than older children. Usually symptomatic vesicoureteral reflux is managed in childhood and cases needing for treatment in adolescence are very limited. The more common indication for surgical treatment of reflux are ectopic ureteral orifices, duplicated ureters with vesicoureteral reflux , high grade reflux ,failure of medical therapy in eradication of infection and acute pyelonephritis despite medical treatment, or increased scar formation(2). There are various techniques for the surgical treatment of reflux that are associated with a high success rate but stenosis of ureteral orifices, mal-location of ureteral orifices, difficulty in catheterization, injection material migration, long-time operation and long periods of hospitalization of patients are their disadvantages. Almost all of the above methods have been studied frequently in children and their results have been reported but the anti-reflux surgeries in adults are very low and there

are very few articles about these kind of surgeries and there hasn't been a special offer in this subject.

The Gil-Vernet Anti-reflux procedure was introduced in 1984 that has no side effects in children (3). in this study the success rate of Gil-Vernet Anti-reflux procedure were studied in adult patients .

## MATERIALS AND METHODS

This study conducted as a retrospective study in the time since October 2001 to October 2008. All patients over 14 years in this period after the first Gil-Vernet Anti-reflux surgery were entered to this study and their operation results were evaluated. The surgery had been done by Transverse lower abdominal incision and a longitudinal opening of the bladder, Ureteral catheter insertion and transverse incision between the medial side of ureters. Ureters had been released and then 3-pull up knots with 0-4 or 0-5 Vicryl suture put in medial side of ureters and after placement a bladder catheter the incision of bladder repaired. The surgery had been finished with placement a drain in surgical site and anatomical closure of abdominal wall. In all cases U / A and U / C , monthly and VCUGs (cystography during voiding) had been obtained six months,12,18 and 24 year after the operation .

## RESULTS

18 patients with median age 25. 5 years (14-41 years) with 25 refluxic ureteral units were operated . diagnosis of reflux

was done with VCUG in all patents. Of these, 15 patients (83. 3%) were female and 3 (17. 7%) were male.

Grading according to international grading of vesicoureteral reflux in these 25 reflaxic units were grade 1 in 5 (20%), grade 2 in 4 units (16%), grade 3 in 9 Units

(36%),grade 4in 5 units (20%)and grade 5 in 2 (8%). Reflux was unilateral in 11 patients and 7 patients had bilateral reflux. The most common indication for surgery was the irritative symptoms of UTI and positive urinary cultures were positive. Hospital stay was of 1 to 12 days (average 4. 5days). In surveys taken in the medium term, 9. 5 months (6-24 months)there were complete remission in 20units (80%), partial remission in 4units (16%) and one had no improvement(4%). No improvement in the disease (no change in grade IV) was present in patient with several bladder diverticula suggesting neurogenic bladder. In this patient treatment continued with medication (oxybutinin). of course in 2 patients with partial improvement there was symptoms of urge incontinence and occult spina bifida in one case. With excluding these items or taking those as secondary reflux cure rate for patients with primary vesicoureteral reflux of were 91% with this technique and 9% relative improvement is obtained.

### DISCUSSION

Anti-reflux surgery is recommended in cases of persistent infection despite antibiotic therapy, symptoms of kidney damage, lack of drug use by patients or reflux in girls after completion of longitudinal growth is recommended.

There are several techniques with high success rate but ureteral stenosis due to manipulation of the lower ureter and impaired blood supply ureter, mal- location of ureteral orifice difficulty in ureteral catheterization and lack of prevention of contralateral reflux are their complication. Gil-Vernet Antireflux surgery is performed without manipulation of lower ureter. . it is effective in prevention of reflux recurrency in contralateral ureter. This method has been tested repeatedly in pediatric patients and excellent results with approximately 90% to 95% success rate has been reported previously(4,5). This Method even in patients with ureteral duplication has very significant recovery

results(6). but As mentioned in the introduction of this article anti-reflux surgery in adults are very low and there is very few articles. In recent years, only one article from Spain reported about Results of Endoscopic treatment of reflux in 21 adults that has been successful in 69% after one treatment and 81% after the second injection (7). The number of patients of it compared with this one and the results of both is acceptable; this report can help the urologists in practice to choose different methods.

Some anatomic conditions such wide trigone, lateral location ureteral orifice, low age and grade of reflux and bladder nervous condition are effective factors in results this technique . Our study is not considered all of them but confirms that improvement was not related to reflux grade and recovery can occur in adults as well. In this study Gil-Vernet Antireflux surgery is not appropriate for patient with signs of nerogenic bladder.

### CONCLUSION

according to low manipulation lower ureter ,short hospital stay and low complication of Gil-Vernet Anti reflux surgery we recommend this procedure in adults, regardless of grade, But given the high rate of secondary reflux in adults, them should be carefully evaluated before surgery and in the presence of bladder symptoms suggesting neurogenic bladder other treatments or techniques is used.

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