

# The Influence of Urinary Tract Infections to the Progression of Autosomal Dominant Polycystic Kidney Disease

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## Introduction

Urinary tract infections (UTI) are common in patients with autosomal dominant polycystic kidney disease (ADPKD) (1-3). However, frequent episodes of UTI are less common and were seen more frequent in females than in males. Patients may present infections of the bladder, perinephric tissue, cysts and renal interstitium (1). There are also doubts about the adverse effects of urinary tract infection on the progression to renal failure in ADPKD (4, 5). We report our experience about the frequency of UTI and their impact on the progression of renal failure in ADPKD patients during 20 years.

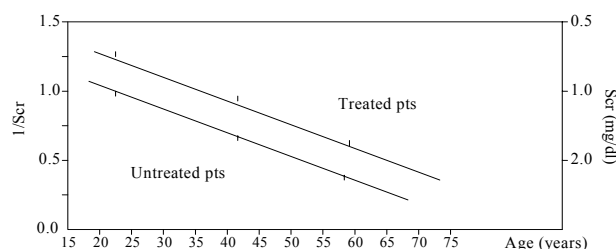
## Patients and methods

180 ADPKD patients were included in the study. Subjects were considered as having UTI if they had had two or more episodes of UTI. 108 treated patients were compared with 72 untreated patients. The therapeutic scheme for the treatment has been an urinary disinfectant – bactrim 480 mg 1cpr/die alternate weeks for three months, discontinued for three months, again alternate weeks for three months and so on. Another treatment alternative except bactrim has been nalidixic acid. Survival times were calculated as the time to renal replacement therapy or time of serum creatinine value up to 10 mg/dl. Kaplan-Meier product-limit survival curves were constructed, and log rank test was used to compare the survival curves.

## Results

UTI were observed in 60% of our ADPKD patients (108 patients), and were more frequent in women than in men (F: M ratio 2.1/1.5). Also, the episodes of isolated cyst infections (negative urine culture and absence of white blood cell casts in urinary sediment) were more frequent than those of acute or chronic pyelonephritis (urinary sediment was positive for white blood cell casts). Treated pts with urinary disinfectants had a significant lower frequency of urinary infection ( $p < 0.001$ ) and hematuria ( $p < 0.001$ ) after one year of treatment than untreated pts. Moreover, treated pts demonstrated a slope of creatinine of 0.0007 vs. 0.0148 of untreated pts ( $p < 0.001$ ) (Fig. 1).

Figure 1. The effect of treatment of UTI on renal function



## Conclusions

We conclude that UTI are frequent in our ADPKD patients. The correct treatment of UTI decreases their frequency and has beneficial role in the rate of progression to renal failure in ADPKD pts.

## References

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