

URINARY TRACT INFECTIONS IN EARLY POST KIDNEY TRANSPLANT PERIOD ARE A RISK FACTOR FOR RECURRENT INFECTIONS AND GRAFT FUNCTION DECLINE

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INTRODUCTION AND AIMS.

Urinary tract infections (UTI) are the most common complication after kidney transplant (KT) (1), but their effect on long term kidney function is unknown. (2-5)

METHODS.

We designed a retrospective observational study in 303 KT patients to evaluate the prevalence of UTI in the first post transplant period and in the long term follow-up, the associated risk factors and UTI effect on the long term renal function.

We collected the following data: demographic indexes, eGFR, UTI frequency, aetiological pathogens, immunosuppressive therapy, previous nephropathy, episodes of rejection. Fisher's test, Kruskal-Wallis test, Student's t test, univariate and multivariate analysis were used for the statistical analysis.

RESULTS AND CONCLUSIONS.

The median follow-up was 41 months; in the first month after KT 36% of patients had UTI (UTI-1M), of them 58.1% developed recurrent UTI (UTI-R). UTI-1M was a risk factor for UTI-R (OR 3.76) (Figure 1). The causal agents of UTI-1M were: Enterococcus Faecalis (40%), Escherichia Coli (22.7%), Enterobacter Cloacae (8.2%), Pseudomonas Aeruginosa (5.5%), Klebsiella Pneumoniae (4.5%), Proteus Mirabilis (3.6%), Enterococcus Faecium (3.6%). (Figure 2) In UTI-R were: Escherichia coli (44.2%), Klebsiella Pneumoniae (17%), Enterococcus Faecalis (13.3%), Proteus Mirabilis (7.9%), Pseudomonas Aeruginosa (7.3%), Enterobacter Cloacae (5.4%), Enterococcus Faecium (1%). In 35.6% of UTI-R the isolated pathogens were different. (Figure 3) In patients with UTI-R eGFR significantly declined since the third year post KT ($p < 0.05$). (Figure 4) Risk factors for UTI were: older age at the time of KT (OR 1.03), induction therapy with Thymoglobuline (ATG)(OR 1.9). The male gender was a protective factor (OR 0,22; $p < 0.001$). (Figure 5)

UTI-1M are an important risk factor for UTI-R (OR 3.76); UTI-R are associated with a long term renal function decline. Female gender, older age at the time of KT, ATG induction therapy predispose to UTI.

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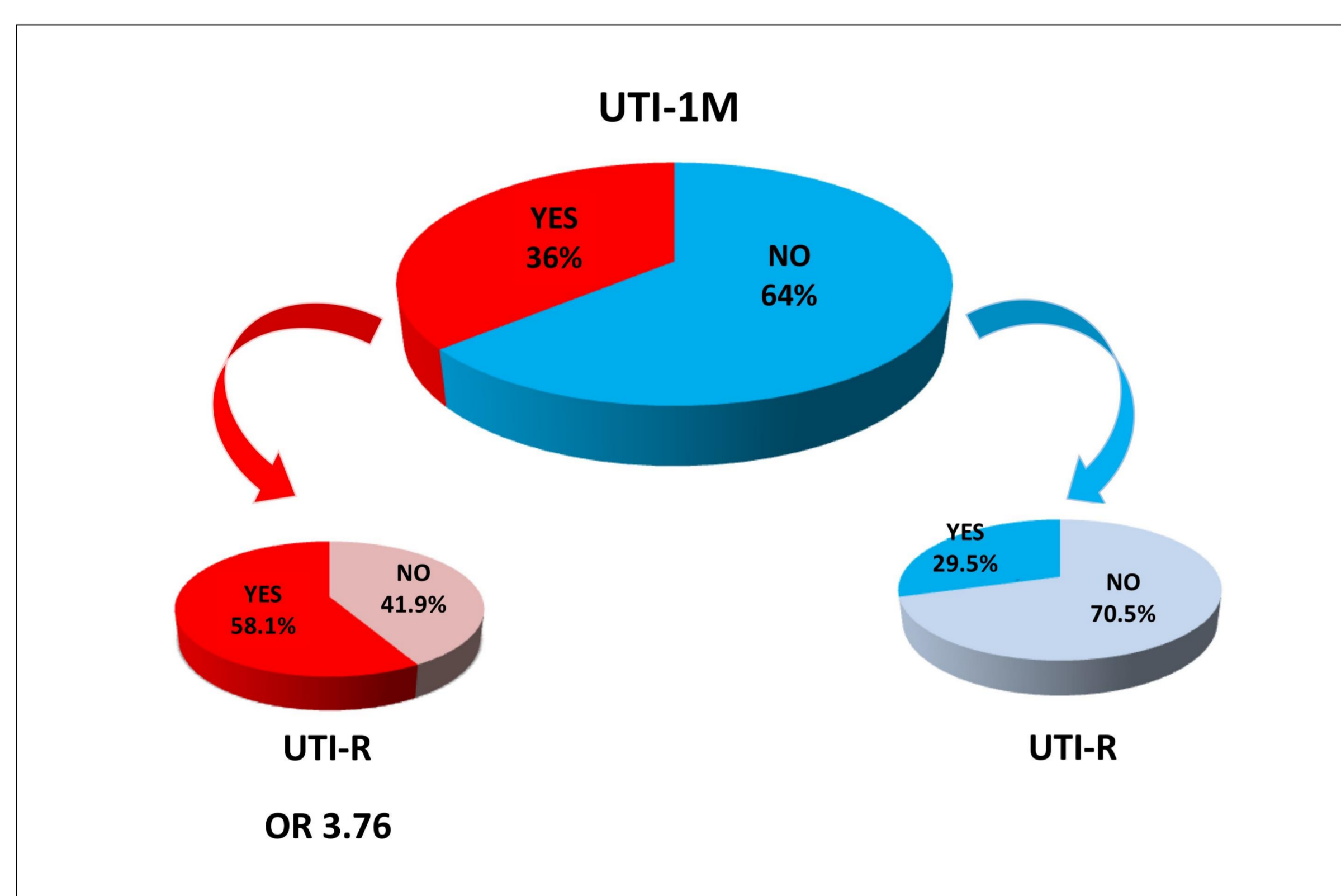


Figure 1. UTI prevalence in the first month post KTx (UTI-1M)

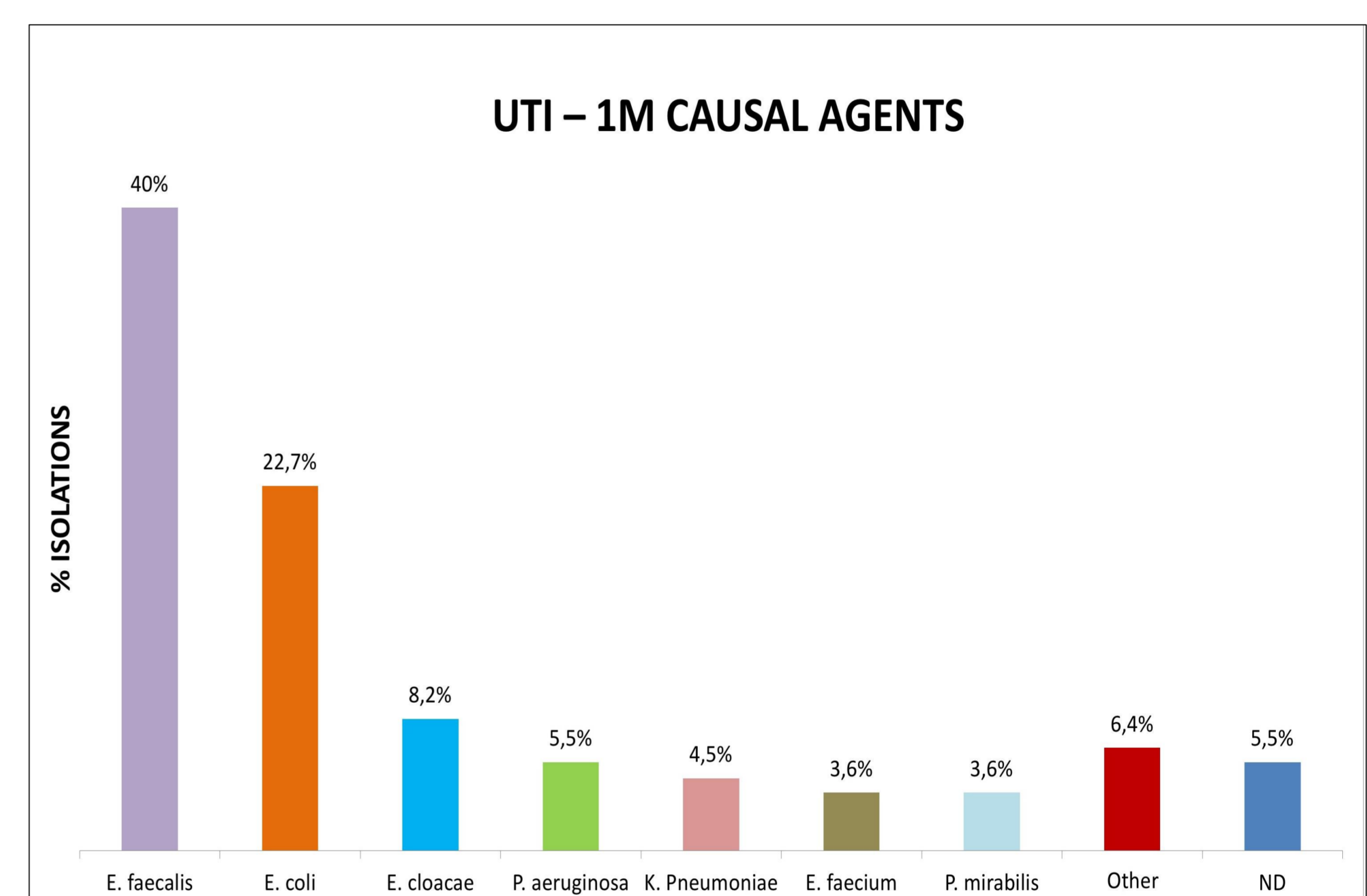


Figure 2. UTI-1M causal agents distribution

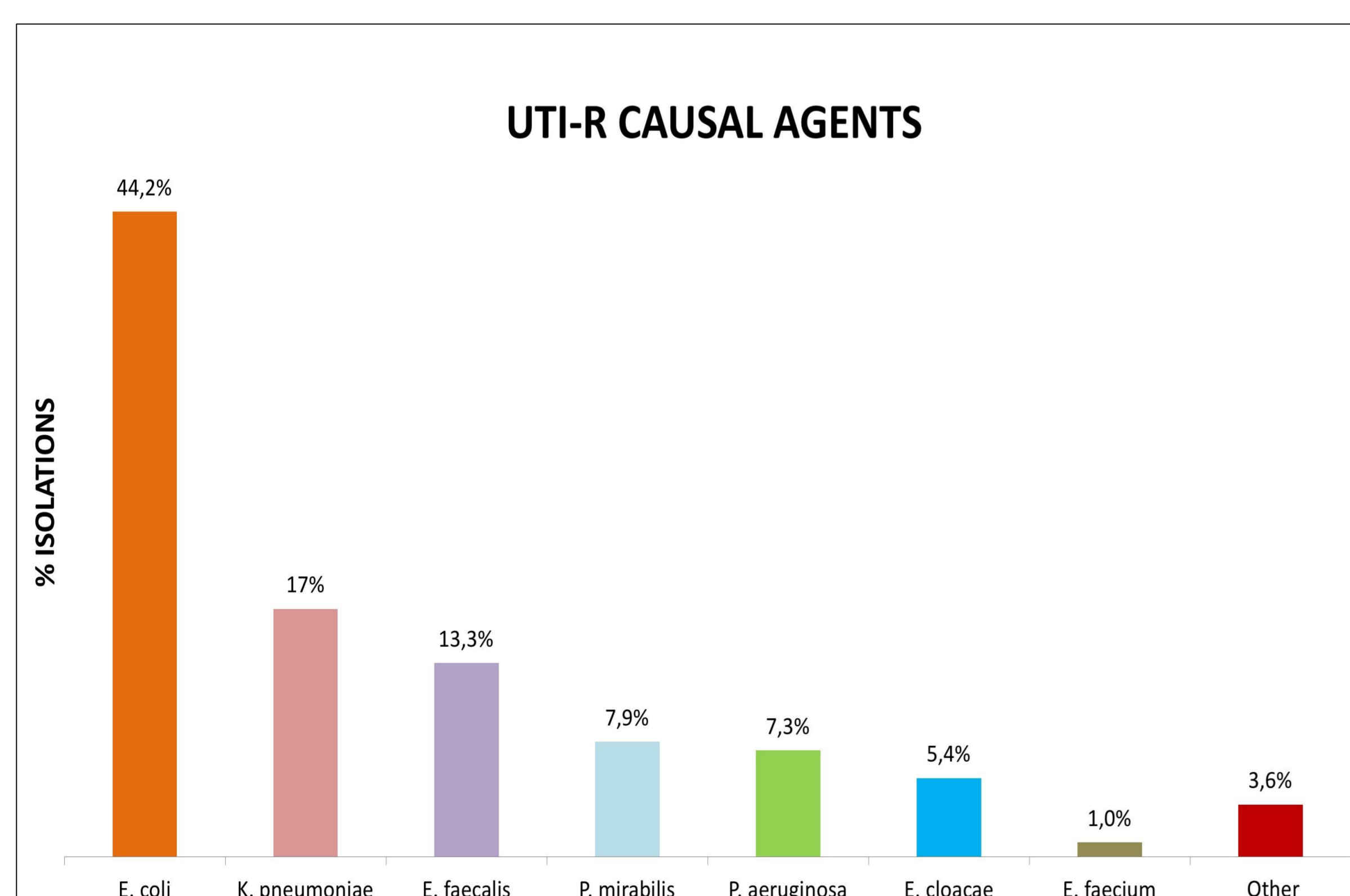


Figure 3. Causal agents distribution in UTI recurrence (UTI-R)

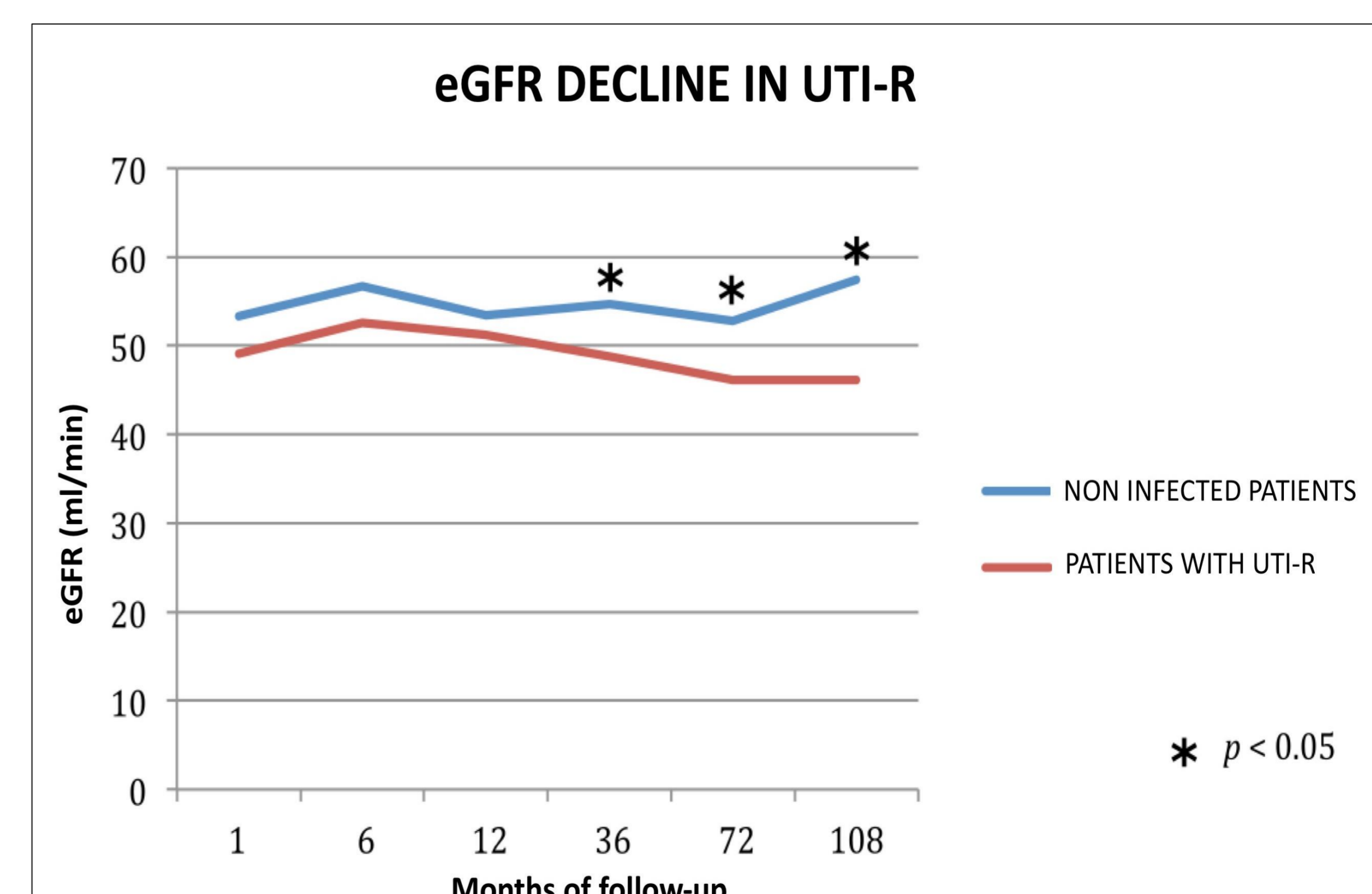


Figure 4. eGFR course in not UTI and in UTI patients

	OR (95%CI)	p
Thymoglobuline	1,90 (1,05-1,46)	0,034
Age	1,03 (1,01-1,06)	0,002
Male	0,22 (0,12-0,39)	<0,0001

Figure 5. UTI-R risk factors