

Role of phytotherapy associated with antibiotic prophylaxis in female patients with recurrent urinary tract infections

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Summary

Objective: Aim of this study is to evaluate the efficacy of a phytotherapeutic which includes *Solidago*, *Orthosiphon* and *Birch* extract (*Cistimev*[®]) in association with antibiotic prophylaxis in female patients affected by recurrent urinary tract infections (UTIr).

Materials and methods: Patients affected by UTIr older than 18 years started a 3-months antibiotic prophylaxis (Prulifloxacin 600 mg, 1 cps/week or Phosphomicyn 1 cachet/week) according to antibiogram after urine culture. The patients were divided in 2 groups: Group A: antibiotic prophylaxis plus phytotherapy (1 cps/die for 3 months) and Group B: antibiotic prophylaxis alone.

Results: 164 consecutive patients were studied: 107 were included in group A (mean age 59 ± 17.3 years) and 57 (mean age 61 ± 15.7) in group B. During the treatment period the relapse frequencies between the two groups were not significantly different ($p = 0.854$): 12/107 (11.21%) patients interrupted the treatment for UTIr in group A and 6/57 (10.52%) in group B. In the long term follow-up the relapse UTI risk was significant different in the two groups with a relapse risk 2.5 greater in group B than in group A ($p < 0.0001$).

Conclusion: Our study demonstrated that in female patients affected by recurrent UTI, the association between antibiotic prophylaxis and of a phytotherapeutic which includes *Solidago*, *Orthosiphon* and *Birch* extract reduced the number of UTI in the 12 months following the end of prophylaxis and obtained a longer relapsing time, greatly improving the quality of life of the patients.

KEY WORDS: Recurrent urinary infection; Phytotherapy; Antibiotic prophylaxis.

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No conflict of interest declared

INTRODUCTION

The bacterial adhesiveness to the bladder walls is important virulence factor in the pathogenesis of urinary tract infections. The development of a biofilm that prevents bacterial adhesion plays an important role in prophylaxis of recurrent urinary tract infections (UTIr). Aim of this study is to evaluate the efficacy of a phytotherapeutic which includes *Solidago*, *Orthosiphon* and *Birch* extract (*Cistimev*[®]) in association with the antibiotic prophylaxis in female patients affected by (UTIr)

MATERIALS AND METHODS

All the female patients affected by UTIr who referred to our urogynaecological unit between September 2010 and

January 2012 were included in a retrospective study comparing antibiotic prophylaxis alone or combined with *Solidago*, *Birch* e *Ortosiphon* (*Cistimev*[®]).

UTIr was defined as at least three episodes of uncomplicated infection documented by urine culture (EAU guidelines) (1).

Patients affected by UTIr older than 18 years started a 3-months antibiotic prophylaxis (Prulifloxacin 600 mg, 1 cps/week or Phosphomicyn 1 cachet/week) according to antibiogram after urine culture. The patients were divided in 2 groups: Group A: antibiotic prophylaxis plus phytotherapy (1 cps/die for 3 months) and Group B: antibiotic prophylaxis alone.

Exclusion criteria were patients with less than three

Table 1.

	Group A		Group B		p
Antibiotic prophylaxis	55/107(51.4%) pts Prulifloxacin	52/107(48.6%) pts Phosphomicyn	29/57(50.9%) pts Prulifloxacin	28/57 (49.1%) pts Phosphomicyn	< 0.540
Sexual activity	62/107(57.9%) pts sexual activity	45(42.1%) pts no sexual activity	30/57 (52.6%) pts sexual activity	27/57 (47.4%) pts no sexual activity	<0.312
Menopause	72/107(67.3%) pts menopause	35/107 (32.7%) pts no menopause	44/57(77.2%) pts menopause	13/57 (22.8%) pts no menopause	< 0.125
Incontinence	56/107(52.3%) pts incontinence	51/107 (47.7%) pts no incontinence	36/57 (63.2%) pts incontinence	21/57 (36.8%) pts no incontinence	< 0.122

uncomplicated UTIs in the previous year; significant (> 50 ml) residual urine; pregnancy; intolerance or allergy to drug compounds, Pelvic Organ Prolapse more than stage II (POP-q quantification).

All patients were assessed by history, clinical examination, urine culture, uroflowmetry parameters and postvoid residual volume evaluation.

The patients in both groups were followed-up with urine analysis and urine culture during the treatment every month and after the end of therapy at 3, 6 and 12 months. Primary outcome was the efficacy in preventing infection recurrences during the treatments and the evaluation of UTI relapse risk in the year after the end of therapy in both groups.

Statistical analysis: chi2 test was used for comparisons of categorical variables; Kaplan-Meier estimation with log-rank test was applied to compare the relapse-free survival time in both groups.

RESULTS

164 consecutive patients were studied: 107 were included in group A (mean age 59 ± 17.3 years) and 57 (mean age 61 ± 15.7) in group B. Both groups were equivalent: there were no statistically significant difference, as regards the type of antibiotic chosen (Prulifloxacin or Phosphomicyn), menopausal status, sexual activity, urinary incontinence and residual urine (Table 1). No patients reported side effects in both groups.

During the treatment the relapse frequencies between the two groups were not significantly different (p = 0.854): 12/107 (11.21%) patients interrupted the treatment for UTI in group A and 6/57 (10.52%) in group B. In the long term follow-up the relapse UTI risk was significant different in the two groups with a relapse risk 2.5 greater in group B than in group A (p < 0.0001).

The survival curves (Figure 1) demonstrated that 25% of patients that underwent the antibiotic prophylaxis plus Phytotherapy had no recurrence at 1 year, while all the patients in group B had at least one recurrence within 1 year.

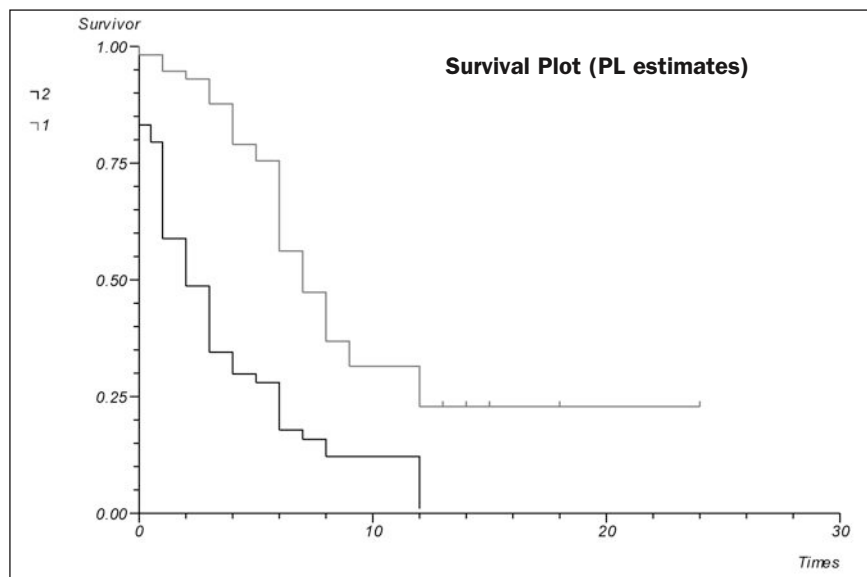
It is also evident that the time to recurrence is always longer in group A, in fact the mean survival time was 10.4 months in group A and 3.6 months in group B (log-rank test p < 0.0001)

DISCUSSION

A major problem today in public health economy is the increase in multi-resistant micro-organisms in patients with recurrent cystitis.

New therapeutic and behavioural strategies are needed to prevent recurrences. Using drugs based on natural substances which are free of side effects may have a place in the armentarium for these very hard to treat patients.

Figure 1.
Kaplan-Meier survival analysis.



Antibiotic prophylaxis has been reported to prevent recurrent episodes for as long as it is continued, with UTI usually recurring as soon as it is suspended (2). When antibiotics are combined with drugs that inhibit bacterial adhesion it appears that the dose can be reduced and recurrences are not as frequent.

The present study demonstrates that long-term results are better with a drop in the number of recurrences after prophylaxis was suspended.

CONCLUSIONS

Our study demonstrated that in female patients affected by recurrent UTI, the association between antibiotic prophylaxis and *Cistimev*[®] reduced the number of UTI in the

12 months following the end of prophylaxis and obtained a longer relapsing time, greatly improving the quality of life of the patients.

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