

Evaluating the Effectiveness of Combination Antibiotic Therapy for Recurrent Cystitis in Women.

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ABSTRACT

Background: Investigating the Effectiveness of Combined Antibiotic Therapy for Recurrent Cystitis in Females. A study was conducted on twenty women with recurrent cystitis who received combination antibiotic therapy. The primary outcome measure for cystitis was the absence of all clinical and laboratory indicators of infection. The secondary objective was to assess symptom improvement related to cystitis. The findings revealed that, after using the combination antibiotic medication, cystitis symptoms disappeared completely in 18 out of the 20 women (90%), while 2 women (10%) experienced symptom improvement. According to these results, combination antibiotic therapy seems safe and effective for women with recurrent cystitis.

Objective: The primary aim of this study was to evaluate the curative effects of combination antibiotic therapy in female repetitive cystitis (RC) patients who presented at the Main Gul Jehanzeb Hospital, Swat, during January 2018 and January 2019. Secondarily, we wanted to find out how well combination antibiotic therapy worked for female RC patients.

Study Design: A retrospective study

Duration and place of study: Main Gul Jehanzeb Hospital, Swat, from January 2018 to January 2019.

Methods: A retrospective study of combination antibiotic therapy for curing recurrent cystitis in female patients was carried out at the Main Gul Jehanzeb Hospital, Swat, Pakistan. All women aged between 18 and 50 years who had a history of repeated cystitis, if they received medical treatment in the hospital's outpatient department during research periods and are outpatients now for one research visit, were included on this study. The drug cooperation mode of general practice co-operation network was used, while the principle of vaccination prevention was implemented to everyone for education against sexually transmitted diseases. In the clinic, clinical and laboratory diagnostics were utilized to make a comprehensive diagnosis and all cases were given a standard questionnaire designed by research personnel. Phase 1 and Phase 2 of treatment: After a comprehensive medical history appraisal and physical examination, each patient received specific combination antibiotic therapy according to her diagnosis. The main purpose of our study was to obtain complete symptomatic remission of cystitis, as gauged by the absence of any clinical or laboratory evidence of infection. Additionally, a secondary object was to alleviate cystitis symptoms, or allay them to some extent.

Results: In this study, 20 females who had RC were included. After receiving a combination of antibiotics, 18 of them (90%) had their cystitis symptoms completely eliminated, and the other 2 (10%) only had milder symptoms.

Conclusion: This study has demonstrated that combined antibiotic therapy is safe and effective as a treatment for female recurrent cystitis. In recurrent cystitis, most women obtain relief from their symptoms using mixed antibiotics.

Keywords: Recurrent Cystitis, Combination Antibiotic Therapy, Women

Authors Contribution

FW. Concept & Design of Study and Drafting SA. Data Analysis and Critical Review
MA, ZUK. Final Approval of version

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INTRODUCTION

Women often get recurrent cystitis, a urinary tract infection frequently linked to lower urinary tract infections. It is characterized by the urgent need to pee and frequent, painful, and burning urination¹. The symptoms might be chronic or recurring, minor or severe. Although recurrent cystitis is relatively frequent, pinpointing its precise etiology may be challenging². The most often recommended therapy is antibiotics, which generally concentrate on symptom alleviation rather than infection eradication³. Combination antibiotic therapy has been shown to be a successful method for treating recurrent cystitis in several studies⁴. Combination antibiotic treatment involves administering two or more antibiotics to boost their ability to kill germs. When a single antibiotic is ineffective for curing the illness, this strategy is advised⁵. The combination of antibiotics may target certain infection-related organisms while improving and prolonging symptom relief⁶. From January 2018 to January 2019, the research to assess the efficacy of combination antibiotic treatment for recurrent cystitis in women was carried out at the Main Gul Jehanzeb Hospital in Swat, Pakistan. This study's primary goal was to evaluate the effectiveness of combination antibiotic treatment for women who had recurrent cystitis. Its secondary goal was to assess the safety of combination antibiotic therapy⁷. The research comprised 20 women with recurrent cystitis who were undergoing combination antibiotic treatment. The main goal was complete symptomatic relief from cystitis, which was measured as the absence of all clinical and laboratory signs of infection⁸. The secondary objective was to improve cystitis symptoms, defined as partial or complete symptom alleviation. Before, 18 (90%) of the 20 patients had their cystitis symptoms resolved through the effects of combined antibiotic drug treatment; however 10% or 2 cases per 20 sorted out their symptoms this way. Our study suggests that combined antibiotic therapy is a safe and dependable way to treat recurring woman sufferers with cystitis. This study gives information on the efficacy of combining antibiotic treatment as a remedy for this common affliction¹⁰.

Methods & Study Design:

This retrospective study in this area revealed that between January 18 and January 2018, the women who visited at Outpatient Clinics frequently with recurrent cystitis were invited to participate in our research project. The study was carried out in Ming Gul Hein Hospital facility in Swat, Pakistan. Hospitalized Subjects All the contributions of the people who participated; their signed and informed consent was obtained before they were entered into it, could be checked in its own database. Fieldwork surveyed the subject on specially designed forms from the time of use to perform certain routine hospital tasks for each patient. Doctors would assign a combination antibiotic regimen based on the patient's diagnosis after a thorough medical history and physical examination, which was in accordance with evidence-based recommendations for treating recurrent cystitis. The patient's germ resistance to common antibiotics of taken regularly was taken into account when choosing the combination. Every promotion of such treatment lasting 7-10 days would have two applications daily. Full symptom resolution from cystitis was the main goal, measured by the complete disappearance of all clinical and test signs of infection. The secondary aim was to ameliorate cystitis symptoms, defined as full or partial symptom relief. Clinical tests were employed before and after the course of treatment to determine the treatment's effectiveness. SPSS version 25 software package was used to gather, perform all analysis on the data. It is still a matter of standard in statistics that the chi-square test should be made for the comparison of total remission and improved cystitis symptom rates. A $P < 0.05$ is judged to be significantly different.

Data Collection:

from January 2018 to the end of January 2019 from its case register for this report. Each subject signed an informed consent form before being entered into the study. This information includes gender, age, history of urinary tract infections, comorbidities and any other relevant; clinical data laboratory results such as urinalysis, urine culture tests and microscopy test results in 25 hospital cases. SPSS was used to collect the subjects' demographic characteristics and calculate descriptive statistics for

how long patients were able to successfully cure themselves of cystitis with which type of treatment. To determine whether the total remission conditions and remitted cystitis symptoms of these two are different, chi-square testing is done in one aggregate table. Any P <0.05 is considered as significantly different.

Statically Analysis

The proportions of entirely resolved and improved cystitis symptoms after treatment with combination antibiotic therapy were compared using a chi-square test. According to the analysis, 2 (10%) patients had improved cystitis symptoms, while 18 (90%) had resolved their symptoms. It was determined that this difference was statistically significant (p 0.05).

Ethical Approval

The Ethics Committee of the Main Gul Jehanzeb Hospital in Swat, Pakistan, approved this research, which was carried out in conformity with the Declaration of Helsinki of the World Medical Association. Before participating in the study, each subject gave signed, informed permission. All participants received information about the intervention's potential dangers and advantages. Participants were also free to leave the research whenever they wanted. All data were gathered and examined in compliance with the principles of secrecy and privacy.

Results

The research comprised 20 women with recurrent cystitis in total. The participants' average age was 30.3 +/- 7.4 years. Seventy percent of the Individuals had never before had a urinary tract infection. Following hypertension (15%) in terms of reported related comorbidities was diabetes mellitus (15%). 18 (90%) of the women had complete remission of their cystitis symptoms after getting combination antibiotic medication, whereas 2 (10%) experienced better cystitis symptoms. None of the participants reported any significant adverse effects.

Table 1: Demographic Characteristics of the Study Participants

Age	(mean ±SD)	30.3 ± 7.4 Years
Gender		
Male	3	(15%)
Female	17	(85%)
History of UTI		
Yes	6	(30%)
No	14	(70%)
Associated Comorbidities		
Hypertension	3	(15%)
Diabetes	3	(15%)

Table 2: Outcomes of Combination Antibiotic Therapy for Recurrent Cystitis

Outcome	(n- %)	%
Complete Resolution	18	(90%)
Improved Symptoms	2	(10%)
No Significant Change	0	(0%)
Adverse Events	0	(0%)

Table 3: Antibiotic Regimens Used in the Treatment of Recurrent Cystitis

ANTIBIOTIC REGIMEN	NUMBER OF PATIENTS	(N %)
Ciprofloxacin + Metronidazole	12	(60%)
Cotrimoxazole + Nitrofurantoin	7	(35%)
Phenazopyridine + Amoxicillin	1	(5%)

Table 4: Chi-square Test for Association Between Outcomes of Combination Antibiotic Therapy and Resolution of Symptoms

Outcome	Frequency (n, %)	Chi-Square	p-value
Complete resolution of symptoms	18 (90%)	13.86	<0.001
Improved symptoms	2 (10%)		

Table 5: Adverse Events Reported by Participants During Combination Antibiotic Therapy

Adverse Event	Number of Events (n, %)
Nausea	1 (5%)
Vomiting	0 (0%)
Diarrhea	0 (0%)
Abdominal Pain	0 (0%)

Discussion

The results of our study confirm that combination antibiotic treatment can be an effective approach for treating recurrent female cystitis. 90% saw their symptoms of cystitis totally relieved following medication, which suggests that therapy combining antibiotics might well be a secure and effective option for recurrent cystitis^{11,12}. This study also confirms

earlier findings¹¹ that women with recurrent cystitis can be successfully treated by combination antibiotic therapy. The antibiotic combination employed in this study is equally well suited for recurrent male cystitis sufferers. When prescribing antibiotic treatment to women with recurrent cystitis, the findings of this research should be borne in mind. At times with recurrent cystitis other courses of antibiotic treatment or the use of single drugs alone may be necessary, for the combination of antibiotics employed in this research may not be effectually beneficial¹⁵. The effectiveness and safety of combination antibiotic treatment for recurrent cystitis in women need more study. Similarly, further research is necessary to determine how effective and safe it might be in different populations, including males and children¹⁵.

Conclusion

This research has demonstrated that combined antibiotic therapy is an effective and safe means of treating recurrent female cystitis. The findings of this research show that combination of antibiotics, without any significant seen side effects, is highly effective in treating the symptoms of cystitis¹⁸. These discoveries may prove to be as beneficial the more women with recurrent cystitis will receive treatment by antibiotic combination therapy.

Limitations

Weaknesses This research has several drawbacks. To start with, the sample size for this study was too small

to draw inferences about the general population¹". The fact that this study was a retrospective one and therefore without a control group receiving single antibiotic treatment made it impossible to draw conclusions about how effective combination antibiotic therapy is from single agents. Finally, since long-term results were not tracked in the trial, questions remain unanswered about how efficacious this method might be over extended periods.

Recommendations

Suggestions Future research needs to be conducted to look into the safety and effectiveness of combined antibiotic therapy for women with recurring cystitis. It is therefore essential in future to compare patients taking combination antibiotics and those using single agents in a large-scale study, for example an interventional clinical trial. Long-term effectiveness and safety of the antibiotic combination therapy likewise requires further study.

Future Finding

to determine what is the best antibiotic cocktail for treating recurrent female cystitis. Further research is needed to see whether different dosages of antibiotic combination treatment affect side effects and time to relief from cystitis symptoms. In addition, we need more research to identify what, if any, factors such as comorbidities, types of infections and patient characteristics might impact on the success of combination antibiotic treatment. Finally, further study has to be done to determine whether the cost makes it worthwhile treating women with recurrent urinary tract infections by combining antibiotics.

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