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Original Article

Comparative Evaluation of Two Different Drugs in Treating Pharyngitis Patients: A Clinical Study

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ABSTRACT:
Background: Penicillin and amoxicillin are the antibiotics of choice for the treatment of pharyngitis. The association of amoxicillin and clavulanate is not indicated as the initial treatment of acute infection. Neither are macrolides indicated as first-line therapy; they should be reserved for patients allergic to penicillin. Hence; we planned the present study to assess the efficacy of Clarithromycin and Penicillin V in treating pharyngitis patients. **Materials & methods:** The present study included evaluation and comparison of efficacy of Clarithromycin and Penicillin V in treating pharyngitis patients. A total of 40 patients diagnosed with suffering from streptococcal pharyngitis were included in the present study and were broadly divided into two study group; Group A included patients who were given Clarithromycin therapy, while Group B included patients who were given Penicillin V therapy. Both clinical and microbiological methods were used for assessing the efficacy of both the drugs. All the results were analysed by SPSS software. **Results:** Sore throat and erythema were the most common initial signs and symptoms observed. Complete clinical cure was observed in 15 and 16 cases of group A and group B respectively. Complete bacteriological cure was observed in 15 patients each of both the study groups respectively. **Conclusion:** Both the drugs are of equal efficacy in treating patients with pharyngitis.
Key words: Pharyngitis, Treatment

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INTRODUCTION

Several viruses and bacteria can cause acute pharyngitis; however, Streptococcus pyogenes is the only agent that requires an etiologic diagnosis and specific treatment. S. pyogenes is of major clinical importance because it can trigger post-infection systemic complications, acute rheumatic fever, and post-streptococcal glomerulonephritis.[1-3] Symptom onset in streptococcal infection is usually abrupt and includes intense sore throat, fever, chills, malaise, headache, tender enlarged anterior cervical lymph nodes, and pharyngeal or tonsillar exudate. Cough, coryza, conjunctivitis, and diarrhea are uncommon, and their presence suggests a viral cause. A diagnosis of pharyngitis is supported by the patient's history and by the physical examination. Throat culture is the gold standard for diagnosing streptococcus pharyngitis.[4, 5]

Penicillin and amoxicillin are the antibiotics of choice for the treatment of pharyngitis. The association of amoxicillin and clavulanate is not indicated as the initial treatment of acute infection. Neither are macrolides indicated as first-line therapy; they should be reserved for patients allergic to penicillin.[6, 7] Hence; we planned the present study to assess the efficacy of Clarithromycin and Penicillin V in treating pharyngitis patients

Materials & methods

The present study was planned in the department of ENT of the medical institute and it included evaluation and comparison of efficacy of Clarithromycin and Penicillin V in treating pharyngitis patients. Written consent was obtained from all the patients after explaining in detail the entire research protocol. A total of 40 patients diagnosed with suffering from streptococcal pharyngitis were included in the present study and were broadly divided into two study group; Group A included patients who were given Clarithromycin therapy, whileGroup B included patients who were given Penicillin V therapy. Exclusion criteria for the present study included:

- Patients above the age group of 50 years,
- Breast feeding or pregnant subjects,
- Subjects with any known drug allergy,

- Hypertensive or diabetic subjects

Swab samples were obtained from all the patients and placement of swab samples was done in blood agar plates followed by incubation at thirty seven degree centigrade. Bauer et al method was used for assessment of results. Both clinical and microbiological methods were used for assessing the efficacy of both the drugs. All the results were analysed by SPSS software. Chi- square test was used for evaluation of level of significance. P- value of less than 0.05 was taken as significant.

RESULTS

Total of 40 pharyngitis patients were included in the present study and based on the type of treatment protocol followed, were divided into two broad groups- group A and Group B. Mean age of the subject of the group A and group B was 29.5 years and 28.4 years respectively. There were 12 males and 11 males in our study. Sore throat and erythema were the most common initial signs and symptoms observed in the present study. Other less commonly observed signs and symptoms included tenderness of lymph node and fever above 38 degree centigrade. Complete clinical cure was observed in 15 and 16 cases of group A and group B respectively. Complete bacteriological cure was observed in 15 patients each of both the study groups respectively. Non-significant results were obtained while comparing the number of cases with clinical and biological cure respectively.

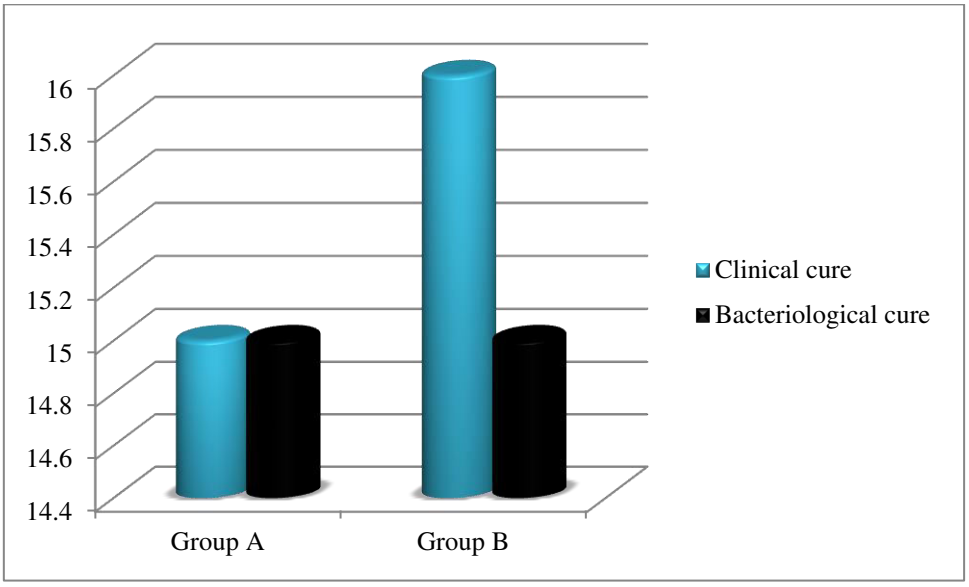
Table 1: Comparison of demographic details

Parameter		Group A	Group B
Number of subjects		20	20
Mean age (years)		29.5	28.4
Males		12	11
Females		8	9
Initial signs/ symptoms	Sore throat	20	20
	Erythema	20	19
	Tenderness of lymph node	15	14
	Fever of more than 38 degree centigrade	5	6

Table 2: Comparison of response

Cure	Group A	Group B	P- value
Clinical cure	15	16	0.82
Bacteriological cure	15	15	0.50

Graph 1: Comparison of response



DISCUSSION

Total of 40 pharyngitis patients were included in the present study and based on the type of treatment protocol followed, were divided into two broad groups- group A and Group B. Mean age of the subject of the group A and group B was 29.5 years and 28.4 years respectively. There were 12 males and 11 males in our study. Sore throat and erythema were the most common initial signs and symptoms observed in the present study. Other less commonly observed signs and symptoms included tenderness of lymph node and fever above 38 degree centigrade. Complete clinical cure was observed in 15 and 16 cases of group A and group B respectively. Complete bacteriological cure was observed in 15 patients each of both the study groups respectively. Non-significant results were obtained while comparing the number of cases with clinical and biological cure respectively. Sing S et al conducted a multi-criteria decision analysis using the Analytic Hierarchy Process. They defined optimal patient management using four criteria: 1) reduce symptom duration; 2) prevent infectious complications, local and systemic; 3) minimize antibiotic side effects, minor and anaphylaxis; and 4) achieve prudent use of antibiotics, avoiding both over-use and under-use. In our baseline analysis we assumed that all criteria and sub-criteria were equally important except minimizing anaphylactic side effects, which was judged very strongly more important than minimizing minor side effects. Management strategies included: a) No test, No treatment; b) Perform a rapid strep test and treat if positive; c) Perform a throat culture and treat if positive; d) Perform a rapid strep test and treat if positive; if negative obtain a throat culture and treat if positive; and e) treat without further tests. Using the baseline assumptions, no testing and no treatment is preferred for patients with Centor scores of 1; two strategies – culture and treat if positive and rapid strep with culture of negative results – are equally preferable for patients with Centor scores of 2; and rapid strep with culture of negative results is the best management strategy for patients with Centor scores 3 or 4. These results are sensitive to the priorities assigned to the decision criteria, especially avoiding over-use versus under-use of antibiotics, and the population prevalence of Group A streptococcal pharyngitis. The optimal clinical management of adults with sore throat depends on both the clinical probability of a group A streptococcal infection and clinical judgments that incorporate individual patient and practice circumstances.[9]

Steinhoff MC et al evaluated the WHO Acute Respiratory Infection guideline in a large urban paediatric clinic in Egypt. Children between 2 and 13 years of age who had a sore throat and pharyngeal erythema were enrolled in the study. Clinical, historical, and demographic information was recorded and a throat culture for group A beta-haemolytic streptococci was done. Sensitivity (% of true-positive throat cultures) and specificity (% of true-negative throat cultures) were calculated for each clinical feature. The effect of various guidelines on correct presumptive treatment for throat-culture status was calculated. Of 451 children with pharyngitis, 107 (24%) had group A beta-haemolytic streptococci on throat culture. A purulent exudate was seen in 22% (99/450) of these children and this sign was 31% sensitive and 81% specific for a positive culture. The WHO Acute Respiratory Infections (ARI) guidelines, which suggest treatment for pharyngeal exudate plus enlarged and tender cervical node, were 12% sensitive and 94% specific; 13/107 children with a positive throat culture would correctly receive antibiotics and 323/344 with a negative throat culture would, correctly, not receive antibiotics. Based on their data they propose a modified guideline whereby exudate or large cervical nodes would indicate antibiotic treatment, and this guideline would be 84% sensitive and 40% specific; 90/107 children with a positive throat culture would correctly receive antibiotics and 138/344 with a negative throat culture would, correctly, not receive antibiotics. The WHO ARI clinical guideline has a high specificity but low sensitivity that limits the unnecessary use of antibiotics, but does not treat 88% of children with a positive streptococcal throat culture who are at risk of acute rheumatic fever. A modified guideline may be more useful in this population.[10]

CONCLUSION

Both the drugs are of equal efficacy in treating patients with pharyngitis. However; further studies are recommended.

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