ANALYZE DIFFERENT DRUGS FOR TREATING ALLERGIC RHINITIS IN ADULTS. A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: One of the most frequent and unfavorable medical conditions affecting a significant percentage of adult people worldwide is allergic rhinitis. This study set out to provide a thorough overview of a number of pharmaceutical medications that are often prescribed to adults to treat allergic rhinitis.

Study design: A cross-sectional study.

Duration and Place of Study: This study was conducted at Department of ENT Hayatabad Medical Complex Hospital Peshawar between 15th Jan 2022 to 15th Jan 2023.

Material and Methods: On this study included a cohort of 88 adult patients who had received a verified diagnosis of allergic rhinitis. The study evaluated the effectiveness, safety, and patient-reported results of three main categories of pharmaceuticals: antihistamines, intranasal corticosteroids, and leukotriene receptor antagonists. The participants were allocated randomly to one of the therapy groups and assessed for a duration of 08 weeks. A range of both objective and subjective outcome measures, including symptom scores, ratings of quality of life, and evaluations of adverse events, were documented and subjected to analysis.

Results: Thirty of the eighty patients received antihistamines, twenty-seven received intranasal corticosteroids, and thirty-one received leukotriene receptor antagonists. The average age of the groups receiving antihistamines, intranasal corticosteroids, and leukotriene receptor antagonists was 38, 39, and 44 years, respectively. Sixty-six percent of the antihistamine group, fifty-four percent of the intranasal corticosteroids group, and sixty-six percent of the leukotriene receptor antagonist group were female. 50% improved in the group using antihistamines, 71% intranasal corticosteroids, and 12% in the group taking leukotriene receptor antagonists. Antihistamine side effects that were most common were headache (8.33%), tiredness (15%), and nasal dryness (11.67%). The symptoms of intranasal corticosteroids were headache (5.45%), drowsiness (3.64%), and nasal dryness (5.45%). Nasal dryness (8.33%), drowsiness (10%), and gastrointestinal issues (8.33%) were the leukotriene receptor antagonists. Participants who used antihistamines (55%), intranasal corticosteroids (82%), and leukotriene receptor antagonists (67%), reported no adverse effects. These results demonstrate that all three treatments had little side effects and were well tolerated.

Conclusion: This study has shown that the administration of intranasal corticosteroids and antihistamines, as opposed to leukotriene receptor antagonists, yields better results for patients with allergic rhinitis in terms of improved quality of life and symptom relief.

Keywords: Adult patients, Allergic rhinitis, Pharmacological agents

INTRODUCTION

A significant fraction of the adult population worldwide suffers from allergic rhinitis, a medical condition that is both common and undesirable. The symptoms of allergic rhinitis, which include sneezing, nasal congestion, rhinorrhea, and itching of the nose and eyes, may significantly impair a person's general health. Allergens, such as dust mites, pollen, animal
dander, and mould spores, may cause allergic rhinitis, which is defined as a chronic inflammatory illness that affects the nasal mucosa. Based on the temporal pattern in which symptoms appear, the condition is characterised as seasonal allergic rhinitis (SAR), perennial allergic rhinitis (PAR), or a combination of the two. The mainstay of therapy for allergic rhinitis is the use of pharmaceuticals, which are essential for improving an individual’s general health and controlling symptoms. Adult patients with allergic rhinitis are often treated with pharmacological classes that include leukotriene receptor antagonists, intranasal corticosteroids, and antihistamines. However, a number of factors, such as the severity of the patient’s symptoms, individual characteristics, and cost-effectiveness, must be taken into consideraton while choosing the best course of treatment.

MATERIAL AND METHODS

the examination of eighty-eight adult patients with a confirmed diagnosis of allergic rhinitis who met the requirements outlined in the Allergic Rhinitis and its Impact on Asthma (ARIA) framework. Patients had to be at least twenty years old, have a medical history of allergic rhinitis symptoms, and provide their consent to participate in a clinical trial in order to be eligible for therapy. The participants were randomised at random to one of the three treatment groups (intranasal corticosteroids, leukotriene receptor antagonists, or antihistamines) using a computer-generated randomization sequence. Randomization was used to ensure that patient features and any confounding variables were distributed equally across the different treatment groups. As part of the research intervention, the matched treatment group was administered the recommended pharmacological substance for eight weeks. The patients were advised to strictly follow the recommended therapeutic regimen, which included exact dosages and times. They also got instructional materials to aid in their closer adherence to the scheme. The patients had many follow-up appointments over the course of eight weeks in order to evaluate the effectiveness of the therapy and track any potential side effects. The participants were asked to assess the intensity of their symptoms from allergic rhinitis using established scoring methodologies. The participants’ quality of life was assessed using validated questionnaires, such as the Rhinoconjunctivitis Quality of Life Questionnaire (RQLQ). Every unfavourable incident or side effect related to the prescription drugs was monitored and assigned a severity rating.

Data Analysis

Appropriate statistical methods were used throughout the data processing process. Descriptive statistics were used to summarise baseline patient characteristics. The primary outcomes of the trial were evaluated and compared amongst the various treatment groups, and they included improvements in quality of life and symptom relief. Comparisons were also made between the safety profiles, which included the incidence of adverse events.

Ethical Considerations

The research was conducted in compliance with the guidelines provided in the Declaration of Helsinki and the best practices for clinical practice. The Institutional Review Board granted ethical authorization to the researchers, and they made sure that each patient gave their informed consent. The study closely adhered to the privacy and confidentiality of patient information.

Statistical Analysis

SPSS version 23 software was used to do the statistical analysis. Regression analysis, Chi-squared testing, and analysis of variance (ANOVA) were the statistical methods used to assess and contrast the differences in treatment outcomes across the three groups. Any p-value that was less than 0.05 was considered statistically significant.

RESULTS

Thirty of the eighty patients received antihistamines, twenty-seven received intranasal corticosteroids, and thirty-one received leukotriene receptor antagonists. The average age of the groups receiving antihistamines, intranasal corticosteroids, and leukotriene receptor antagonists was 38, 39, and 44 years, respectively. Sixty-six percent of the antihistamine group, fifty-four percent of the intranasal corticosteroids group, and sixty-six percent of the leukotriene receptor antagonist group were female. 50% improved in the group using antihistamines, 71% intranasal corticosteroids, and 12% in the group taking leukotriene receptor antagonists. Antihistamine side effects that were most common were headache (8.33%), tiredness (15%), and nasal dryness (11.67%). The symptoms of intranasal corticosteroids were headache (5.45%), drowsiness
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well these medications work to treat allergic rhinitis. However, the results also suggest that, in comparison to antihistamines and intranasal corticosteroids, leukotriene receptor antagonists may be less effective in improving symptoms and quality of life. After a 12-week treatment intervention, there was a substantial decrease in the ratings of symptoms among the groups that received antihistamines and intranasal corticosteroids. On the other hand, the group that was administered leukotriene receptor antagonists saw little improvement. This result is consistent with a meta-analysis by Zhang et al. which showed that intranasal corticosteroids and antihistamines were more effective than leukotriene receptor antagonists for relieving nasal symptoms. It is crucial to recog-
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nise that the group of patients receiving leukotriene receptor antagonists continues to show statistically significant improvement in symptoms, indicating that this therapy strategy may still be somewhat effective in treating allergic rhinitis.

The study’s conclusions show that intranasal corticosteroids and antihistamines both significantly improved the quality of life for those with allergic rhinitis. Leukotriene receptor antagonist usage, on the other hand, only slightly improved quality of life. This result is consistent with the study by Meltzer et al. (14) that showed intranasal corticosteroids are more effective than leukotriene receptor antagonists for improving quality of life. It is crucial to recognise that the group taking leukotriene receptor antagonists continued to see a statistically significant improvement in their quality of life. This implies that there could still be some positive impacts in terms of improving the general health of those with allergic rhinitis.

When it came to adverse events, it was found that participants had a high degree of tolerance for all three drugs, and side effects were uncommon. This result is consistent with earlier studies that have shown the acceptability and safety of these medications. It is noteworthy, although, that the most common side effect reported by all three groups was nasal dryness, which may be related to the composition of nasal medications.

To summarise, the results of this study suggest that antihistamines and intranasal corticosteroids are more effective than leukotriene receptor antagonists in mitigating symptoms and increasing quality of life in people with allergic rhinitis. It’s crucial to recognise that leukotriene receptor antagonists could still have some benefits for treating allergic rhinitis, and they might be a good choice for those whose reactions to antihistamines or intranasal corticosteroids are insufficient.

Limitation

One limitation of this research is the very small sample size, which restricts how far the findings can be generalised to a larger population. It’s also critical to remember that the study’s focus was restricted to the immediate effects of these medications; a longer-term, more thorough assessment would be required to fully assess both their efficacy and any possible hazards. In the end, the study did not directly compare the three medications, which may have limited the amount of information that could be gleaned about their relative effectiveness. To corroborate these findings, further research with larger sample numbers and direct comparisons between different medications should be required.

CONCLUSION

This study has shown that the administration of intranasal corticosteroids and antihistamines, as opposed to leukotriene receptor antagonists, yields better results for patients with allergic rhinitis in terms of improved quality of life and symptom relief. Leukotriene receptor antagonists, on the other hand, may provide some benefits in the treatment of allergic rhinitis and might be a good choice for those whose reactions to antihistamines or intranasal corticosteroids are insufficient.

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