

SYSTEMATIC REVIEW

Pharmacological profile, efficacy and safety of rupatadine in allergic rhinitis

Subodh Katiyar^a, *Shivesh Prakash^a

^a Department of Tuberculosis & Respiratory diseases, GSVM Medical College, Kanpur, India

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Abstract

Allergic rhinitis (AR) is a disease with high prevalence. In AR, exposure to airborne allergens elicits an allergic response which involves epithelial accumulation of effector cells – e.g. mast cells and basophils – and subsequent inflammation. During the early response in AR, histamine has been found to be the most abundant mediator and it is associated with many symptoms of this disease mediated through the histamine H1 receptor. Therefore, anti-histamines have a role to play in the management of AR. However, the available anti-histamines have certain well-known side effects like sedation and potential pro-arrhythmic effects owing to their interactions with other drugs, as well as having poor or no effect on platelet activating factor (PAF) which also plays an important role in AR. This article is a qualitative systematic literature review on the pharmacological profile of rupatadine in order to evaluate its safety and efficacy in AR as compared to other anti-histamines. Rupatadine is a once-daily non-sedative, selective, long-acting H1 anti-histamine with antagonistic PAF effects through its interaction with specific receptors. Rupatadine significantly improves nasal symptoms in patients with AR. It has a good safety profile and is devoid of arrhythmogenic effects. These properties make rupatadine a suitable first line anti-histamine for the treatment of AR.

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Introduction

Allergic rhinitis (AR) is a common disease, with a high prevalence ranging from about 10% for seasonal allergic rhinitis (SAR) to 10–20% for perennial allergic rhinitis (PAR).¹ Besides high prevalence, AR is also associated with an impaired quality of life and co-exists with co-morbidities such as atopy and asthma.²

Most studies have classified allergic rhinitis into SAR and PAR and hence this classification is being used in this review. Seasonal allergic rhinitis (SAR) is known to be triggered mostly by various types of pollens from grasses, weeds and trees as well as outdoor moulds and spores. The disease presents usually with sneezing, rhinorrhoea, nasal obstruction, pharyngeal obstruction, ocular watering and itching.¹ Similar symptoms are found in PAR except that nasal obstruction is more pronounced. Most PAR patients exhibit sensitivity to one or more of the non-seasonal allergens – e.g. spores, moulds, animal dander and dust mites.² Depending upon the spectrum of allergen sensitivities, symptoms of AR can be

perennial and/or show seasonal exacerbation.

In allergic rhinitis, exposure to airborne allergens elicits an allergic response which involves epithelial accumulation of effector cells – for example, mast cells and basophils – with subsequent inflammation. Immunological activation of these effector cells is associated with secretion of pro-inflammatory mediators which include newly-formed mediators such as leukotrienes, prostaglandins and kinins and pre-formed mediators like histamine and tryptase.³ During the early response in AR, histamine has been found to be the most abundant mediator and has also been associated with many symptoms of this disease such as rhinorrhoea, itching, sneezing and watery eyes mediated mainly through the histamine H1 receptor.⁴

This article is a qualitative systematic literature review, undertaken to provide an insight into the pharmacological profile of rupatadine (RU) and its role in the treatment of AR. The review involves a survey of studies on RU which provide data on its side effects, safety, efficacy, and dose response

* Corresponding author: Dr Shivesh Prakash, 59 gf Sadiquabad Colony, Mankapur, Nagpur 440029, India. E-mail: shivesh_18@yahoo.com

