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The Evaluation of New Classification of Allergic Rhinitis in Patients Referred to a Clinic in the City of Shiraz

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ABSTRACT

Allergic rhinitis is the most common cause of allergic diseases. The recent guidelines of Allergic Rhinitis and its Impact on Asthma (ARIA) group, classified it to intermittent (less than 4 days per week and for less than 4 weeks) and persistent (more than 4 days per week or lasting more than 4 weeks regardless of the number of days per week). The present study evaluates the patients with ARIA classification.

The patients referred to Motahhari Clinic (Shiraz, Iran) were evaluated. Age, sex, seasonal or perennial, intermittent or persistent type, duration, sneezer or blocker, diurnal change and presence of allergic conjunctivitis were recorded. The patients who had one or more symptoms of; impairment of sleep, daily activity or work in school or troublesome symptoms had moderate to severe disease and those who did not have these problems have mild disease.

The information of 96 patients (46 male and 50 female) were analysed (mean age \pm SD: 24.45 \pm 10.37 years). The mean duration of disease was 4.26 \pm 4.12 years, was more in female ($P<0.05$). Seasonal allergic rhinitis was present in 49 (52%) patients; 30 male, 19 female ($P=0.007$), perennial in 15 (16%), 1 male, 14 female and mixed type in 29 (30%); 11 male, 18 female. Mild intermittent rhinitis was diagnosed in only 2 (2%) patients, 1 male and 1 female, mild persistent rhinitis in 23 (24%); male 11, female 12; moderate/severe intermittent rhinitis in 4 (4%); 3 male, 1 female; and moderate/severe persistent rhinitis in 56 (58%); 22 male, 34 female ($P<0.05$). Fifty-seven percent were more sneezer and 36% were more blocker type, sneezers suffered more in days and others more at nights. Others were both sneezer and blocker. Sixty percent had allergic conjunctivitis too, 76% of them were moderate/severe persistent, and 85% were in seasonal or mixed groups. Eleven patients (12%), in persistent group, had history of asthma. Family history of allergic rhinitis and asthma was found in 53% and 25% of patients, respectively.

According to new guidelines for classification of allergic rhinitis, most of the patients are moderate to severe types. The classification of allergic rhinitis to seasonal and perennial disease is not proportional to intermittent and persistent types of classification.

Key word: Allergic Rhinitis; Asthma; Perennial; Seasonal

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INTRODUCTION

Allergic rhinitis (AR) is an, IgE-mediated immunologic disease producing nasal symptoms such as sneezing, rhinorrhea, and congestion.^{1,4} AR is an upper respiratory disorder affecting between 10 and 40% of the global population.^{2,5} Epidemiological evidence suggests that the prevalence is rising.^{3,6} AR is the most common chronic condition in children.^{4,7}

Although AR occurs frequently, affecting both adults and children, it remains largely undiagnosed.^{4,8} The condition may be frequently trivialized (by the patient) and/or unrecognized (by the doctor), resulting in inadequate control of symptoms. When AR symptoms are associated with conjunctival symptoms, the term allergic rhinoconjunctivitis is more appropriate. About 60% of all AR patients suffer also from allergic conjunctivitis.^{3,4}

Classically, AR has been classified as seasonal (SAR), also known as hay fever, which is caused by pollens and outdoor molds or perennial (PAR), which is caused by dust mites, cockroaches, animal dander, and indoor mold.^{1,7}

This classification while useful, posed several problems. People allergic to several pollens may present with symptoms over several seasons while people with PAR may experience symptoms for short but recurring periods. Additionally, people who experience PAR may also suffer from seasonal exacerbations. In response to this, the Allergic Rhinitis and its Impact on Asthma (ARIA) group in conjunction with the World Health Organization (WHO), has revised the classification of AR. The new classification includes a measurement of the frequency and duration of the symptoms.^{1,4} Intermittent AR is defined as experiencing symptoms for < 4 days/week or < 4 consecutive weeks. Persistent AR is termed as symptoms occurring for more than 4 days/week and more than 4 consecutive weeks.^{1,4} Additionally, a severity scale of mild to moderate-severe was included in the revised classification.

While the SAR/PAR classification was deemed inadequate, the validity of the new classification is still largely unknown, especially the extent to which it differs from the classical SAR/PAR classification, and how and whether intermittent and persistent, as defined by ARIA, differ from each other. In a large population of over 6000 patients, it was shown that around 55% of patients with seasonal symptoms had an intermittent

rhinitis whereas 55% of those sensitized to perennial allergens had persistent rhinitis.^{5,7}

However, more information is needed to appreciate the characteristics of patients with intermittent and persistent rhinitis.

The present study compares the proportions of the classical and the ARIA types in a population consulting allergy specialists, to describe the characteristics of both the intermittent and persistent groups.

PATIENTS AND METHODS

The study was carried out in 100 patients consulting allergy specialists for AR.

Patients were classified according to the four classes (mild intermittent, mild persistent, moderate/severe intermittent and moderate/severe persistent) using the ARIA classification.

Intermittent AR is defined as experiencing symptoms for <4 days/week or <4 consecutive weeks. Persistent AR is termed as symptoms occurring for more than 4 days/weeks and more than 4 consecutive weeks. Mild AR is defined according to symptoms such as normal sleep, no impairment of daily activities, sport, or leisure, normal work and school and no troublesome symptoms. Moderate-severe AR is termed a sole or more items occurring: abnormal sleep, impairment of daily activities, sport, or leisure, impairment of work or school and troublesome symptoms. The characteristics of rhinitis, allergen sensitization and co-morbidities were examined according to the ARIA classes.

All patients with AR who were recruited fulfilled the following inclusion criteria:

(1) Patients of both genders with a history of AR during at least the previous year.

(2) All had an AR and the diagnosis of AR was based on a score for allergic rhinitis (SFAR) (Table 1).

(3) Allergic sensitization was assessed using skin prick tests (SPTs) with standardized allergens (Allergopharma). The following allergens were tested: grass pollen, tree pollen, dermatophagoides pteronyssinus, cat dander, alternaria, candida and cladosporium.

Patients with symptoms in temporal relationship to the presence of seasonal allergen were classified as "Seasonal", and the patients with perennial type but increased symptoms in season were assigned as mixed type.

Evaluation of New Classification of Allergic Rhinitis

Table 1. Component of the Score for allergic rhinitis (SFAR).

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- Nasal symptoms in the past year including sneezing, runny nose and blocked nose when the subject did not have a cold or flu in the past year
 - Nasal symptoms accompanied by itchy, watery eyes (rhinoconjunctivitis)
 - Season of the year in which nasal symptoms occurred (seasonal and perennial rhinitis, retrospectively)
 - Triggers of nasal symptoms including pollens, house dust mites, house dust and epithelia
 - Perceived allergic status
 - Previous medical diagnosis of allergy
 - Previous positive tests or allergy
 - Familial history of allergy
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Conjunctivitis was defined clinically according to the single question used in the SFAR questionnaires on suggestive symptoms: “In the past 12 months, has the nose problem been accompanied by itchy-watery eyes? The question “Diagnosed asthma” was used to assess asthma.

RESULTS

In the present study 100 patients were included, but 96 patients were analysed, the reason of exclusion was incomplete information. They were 46 males and 50 females, mean age \pm SD was 24.45 ± 10.37 year-old, male mean age was 22.78 ± 10.98 and female mean age 25.45 ± 9.65 ($P=0.14$). The duration of disease was 4.26 ± 4.12 years. The duration was longer in female ($P<0.05$). Only 10% of the patients were from villages.

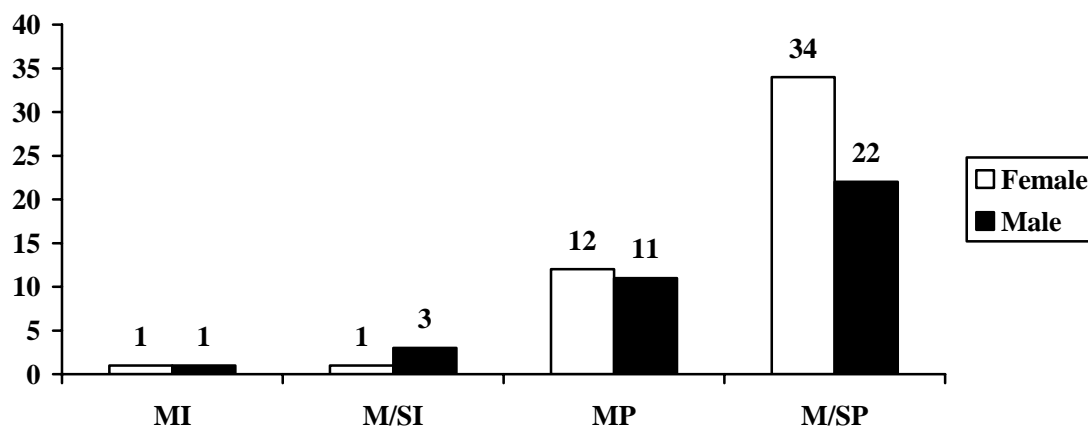
Eighty five percent of the patients were treated for their nasal conditions, oral antihistamines were

administered in 98% of them, 45% used intra-nasal drug and 24% had injections of glucocorticoid.

Classification of patients to intermittent and persistent rhinitis is illustrated in fig(1). Moderate/severe intermittent rhinitis was more frequent in females ($P<0.05$).

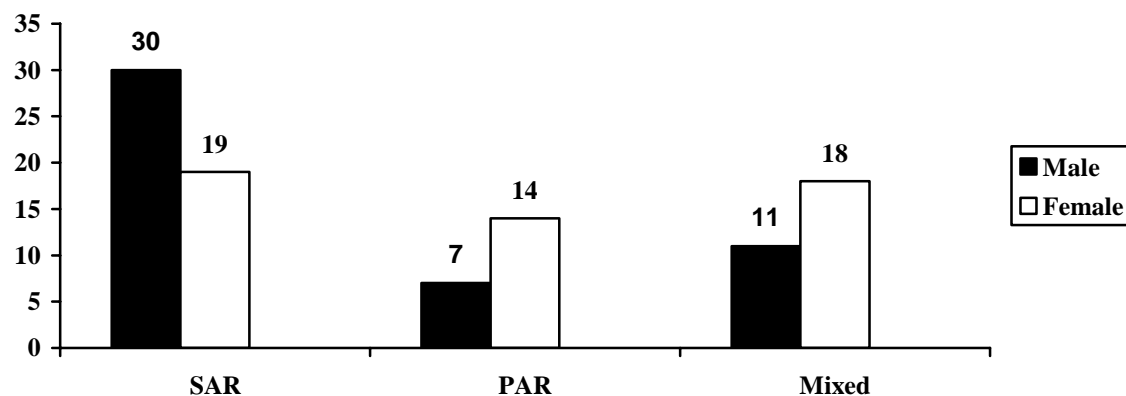
Classification of patients to SAR and PAR is illustrated in fig(2). SAR was more frequent in male ($P=0.007$). History of asthma was present in 11 (12%) patients, with male and female were, all in persistent group, however cough symptom was present in 19 (20%). Allergic conjunctivitis was present in 55 (60%), 21(38) male and 34(35%) female, ($P=0.016$), 3 of them were in intermittent groups, 10 in mild persistent and 42 in moderate/sever persistent.

Only 8(15%) patients with allergic conjunctivitis were in perennial group, (7 male, 7 female), the others (47 patient, 85%) were in seasonal or mixed types.



MI: Mild Intermittent; M/SI: Moderate/severe intermittent; MP: Mild persistent; M/SP: Moderate/severe persistent

Figure 1. Allergic rhinitis and its impact on asthma (ARIA) classification in prevalence of intermittent versus persistent allergic rhinitis.



SAR: Seasonal Allergic Rhinitis; PAR: Perennial Allergic Rhinitis

Figure 2. Seasonal and perennial classifications of allergic rhinitis

Fifty five (57%) patients were more sneezer; with no differences between males and females. 35 (36%) patients were more blocker, there was not significant difference in male and female ($P=0.17$), others were mixed. The blocker type patients suffered more at night and sneezers more during the day.

Family history of asthma was in 24 (25%) patients and of allergic rhinitis in 51 (53%).

DISCUSSION

In this study carried out in specialist centers on the patients with AR, it was found that according to the ARIA classification 62% of the female patients had more moderate/severe rhinitis. The female patients may have been referred to the physicians more often than the male patients.

Bousquet et al in a cross sectional study found that 76% of the patients had moderate/severe rhinitis.⁶ Bauchau et al, in a study found that 29% of subjects had persistent AR, in their study there was no association between the intermittent / persistent and SAR/PAR.¹ In a study by Demoly et al it was shown that seasonal and perennial rhinitis are not synonymous to intermittent and persistent rhinitis they concluded that ARIA classification appears to be more appropriate than the classic form.⁵ The result of our study is similar to previous study.¹⁹ In our study most patients presented with moderate/severe symptoms and persistent rhinitis was more common than intermittent. These results suggest that when patients refer for AR,

they usually suffer from severe and or persistent symptoms. A study in the general population is, however, needed to assess the prevalence of the four classes of AR, especially in patients who are not consulting physicians.

An epidemiologic large studies showed, that nearly 30% had persistent asthma¹ and the proportion for intermittent /persistent and SAR/PAR were quite consistent. The classic types of SAR/PAR had no association to ARIA classification. Twelve percent of our patients had history of asthma and all of them were in persistent group, the others^{11, 12} showed that 24% or more patients with rhinitis suffered from asthma.¹¹⁻¹⁶ These results support ARIA major recommendation that patients with persistent rhinitis should be evaluated for asthma.⁶ Although in our study cough symptom was more prevalent (20%) however more evaluations are needed for distinction between cough variant rhinitis and asthma. Allergic conjunctivitis was low in intermittent group in our study, whereas in other studies prevalence was equal in both intermittent and persistent groups,^{4,6} But in our study was more in persistent group, although only 6% of our AR patients were intermittent.

In the recent ARIA workshop patients were classified in to the “sneezers and runner” and “blocker” and a new disease severity categorization was described⁽¹⁰⁾. In a study carried out by Khanna et al, sneezer group were found to be more younger, birth date between June to September, family history of atopy, AC, more had SAR and more moderate/severe

Evaluation of New Classification of Allergic Rhinitis

intermittent disease. Whereas blocker type were more mild persistent, breathlessness, mouth breathing and loss of smell. But in our patients both sneezer type and persistent type were more common.

In conclusion, the classic types of SAR/PAR can not be used interchangeably with the new classification of intermittent/persistent and they do not represent the same stratum of disease. Further studies are recommended for an accurate evaluation of patients.

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