



## ASSOCIATION OF ATOPIC DISEASE AT ATOPIC PATIENTS IN DIYALA GOVERNORATE IN IRAQ

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### ABSTRACT

**Objective:** The aim of the study is to determine the association between atopic disease at atopic patients in Diyala Governorate, Iraq. **Materials and Methods:** 104 patient are included in the study (42 male and 62 female), attending, Dr. Adnan H. Alwan and Dr. Adnan R. Muhammed private clinics, all are a topic patients with different a topic Disease. From 2/1/2018 till 31/1/2018. **Result:** from all the atopic patient included in the study 38.46 % (40 patients) are atopic dermatitis with allergic rhinitis, 29.8% (31 patients) are atopic dermatitis with asthma and 22.11% (23 patients) are atopic dermatitis with allergic rhinitis and asthma, and 9.61% (10 patients) are atopic dermatitis with allergic conjunctivitis. **Conclusion:** This study and other similar studies improve the association of atopic diseases at atopic patients.

**KEYWORDS:** Atopy, Atopic disease, Atopic dermatitis, Allergic rhinitis, Asthma.

### INTRODUCTION

#### Atopy

The word atopy (Greek: atopic, out of place) refers to an inherited tendency to produce immunoglobulin E (IgE) antibodies in response to small amount of common environmental proteins such as pollen, house dust mites and food allergens.<sup>[1]</sup>

Before the discovery of immunoglobuline E (IgE) in 1968 the term atopy was coined by Coca and Cooke,<sup>[2]</sup> in 1923 in their seminal article as they wrote: "the word atopy, was kindly suggested by professor Edward D. Ferry of Columbia University. The Greek word atopia from which the term was derived, as used in the sense of strange disease. However it is not necessary to include under the term all strange disease: the use of term can be restricted to the hay fever and asthma group".

The presense of atopy in an individual is associated with an increased risk of developing one or more of atopic disease: atopic dermatitis (AD) asthma and allergic rhinoconjunctivitis (ARC) / hay fever and food allergy.<sup>[1]</sup>

#### Atopic dermatitis (AD)

Atopic dermatitis (AD) is primarily a disease of early childhood. About 20% of all children develop symptoms of AD at some point in their lives,<sup>[3]</sup> Half of these develop symptoms within the first year of life with 95%

experiencing onset below 5 years of age . The majority out grows AD in childhood on early a adolescence, but around 25% continue to have eczema in to adulthood or arelapse of symptoms after some free years.<sup>[4]</sup>

About 30% of all children with AD have food allergy. The allergens involved are typically cow's milk and egg with other foods also being common for example, soy wheat, and fruits.<sup>[5]</sup>

#### Asthma

Asthma is chronic inflammatory condition resulting in a reversible airway obstruction and mainly characterized by dry cough, wheezing, chest tightness and dyspnea.<sup>[6]</sup>

The diagnoses of asthma in children under 3 years of age is difficult since many young children have recurrent episodes of wheezing and cough, typically in response to acute respiratory infection. A positive family history of atopic disease, presence of AD and sensitization to food and aeroallergen predict persistent asthma in childhood and in later life.<sup>[7]</sup>

Episodic wheeze occur in about 30% of all children while persistent asthma occur in about 10% of all children and 5% of adult but is varies greatly across geographic region.<sup>[8]</sup>

Atopy is present in about 75% of all children of asthma but only in 50% of or even less of adult.<sup>[9]</sup>

### Allergic rhinitis

Allergic rhinitis (AR) is defined as an inflammation of the nose induced by IgE mediated inflammation due to exposure to foreign substances referred to as allergens.<sup>[10]</sup> It is characterized by nasal symptoms of pruritis, sneeze, discharge, and the sense of the smell also can be altered.<sup>[10]</sup> Although most people experience seasonal symptoms, about 25% of all affected individual have perennial symptoms.<sup>[11]</sup>

## MATERIALS AND METHODS

The study was conducted in patients of atopic disease attending private clinics of Dr. Adnan R. Muhammed, Dr. Talib Abed Humood and Dr. Adnan H. Alwan.

Full history, clinical examination, spirometry, rhinoscopy were done for asthmatic and allergic rhinitis patients.

The study is conducted at the period from 3/1/2018 to 31/ 12/ 2018. Patient more than 70 and under 5 years old are not included in the study.

Total number of patients included at the study was 104, 42 male 62 females.

## RESULTS

The total number of the patients included in study were 42 male 62 females (table 1). The age of patients was from 5 to 70 years old in which 17.3% (18 patients) was from 5- 10 years , 13.46% was from 11-20 years (14 patients), 22.11% (23 patients) was from 21-30 year 24.03% (25 patients) was 31-40 year, 12.5% (13 patients) was 41-50, 8.65% (9 patients) was 51- 60 and 1.92 % (2 patients) were over 60 years old (table 2).

In the study we found that from all total atopic patients included in the study the highest association is between AD and AR 38.4% (40 patients), followed by AD and asthma 29.8 % (31 patients), then between AD and asthma and allergic rhinitis (at same patients) which was 22.11% (23 patients) the minimal association between atopic disease in our study was found between AD and allergic conjunctivitis 9.61 % (10 patients).

**Table 1: Sex distribution.**

Sex	Number	Percentage %
Male	42	40.38
Female	62	59.62
Total	104	100%

**Table 2: Age distribution.**

Age (year)	Number	Percentage %
5 -10	18	17.3
11 -20	14	13.46
21 – 30	23	22.11
31 – 40	25	24.03
41 – 50	13	12.5
51 – 60	9	8.65
61 - 70	2	1.92
Total	104	100.0

**Table 3: Disease distribution.**

Disease	Number	Percentage %
Atopic dermatitis with allergic rhinitis	40	38.46
Atopic dermatitis with allergic conjunctivitis	10	9.61
Atopic dermatitis with asthma	31	29.8
Atopic dermatitis with asthma and allergic rhinitis	23	22.11
Total	104	100.0

## DISCUSSION

The risk of atopic disease primarily asthma and AR is markedly increased in children with AD. A child with moderate to severe AD has 50% risk of developing asthma either concomitantly or in later life , whereas the risk of developing AR is as much as 75%.<sup>[5]</sup>

Atopy is present in about 75% of children with asthma but only in 50% or even less of adults.<sup>[9]</sup>

Atopic disease frequently accompany or precede asthma about 40% of all children with asthma have history of AD.<sup>[12]</sup>

Patient with atopic asthma have or will develop AR in more than 80% of the cases whereas only 30% of patient with non- a topic asthma have AR.<sup>[9]</sup>

In our study we found this association between atopic disease in form of: 38% between AD and asthma which was the highest association, between AD and asthma 29.8%, followed by association between AD asthma and AR 22.11%, the lowest association in our study was found between AD and allergic conjunctivitis 9.61 % (table 3).

## CONCLUSION

Association was found between atopic disease included in our study; AD, asthma, AR and allergic conjunctivitis.

**RECOMMENDATION**

1. More studies are needed at this field.
2. In patient with one or more atopic full history and good clinical examination may lead to early diagnosis of atopic disease.

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