

CONSULTATIONS IN PEDIATRIC ALLERGY

PEDIATRİK ALLERJİDE KONSÜLTASYONLAR

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ABSTRACT

Aim: Consultation among physicians remains an essential component of accurate diagnosis and appropriate treatment of a patient having diagnostic problems.

Methods: A retrospective review of hospital records was conducted in a total of 1019 patients consulted at pediatric allergy clinic between September 1, 2008 and August 31, 2009.

Results: A total of 1019 allergy consults whose ages ranged from 3 months to 18 years old were reviewed. Among these consultations; 635 (62.3%) were boys. Consultations were requested by clinics of pediatrics (71.8%), sub-branch clinics (15%), dermatology (6.4%), emergency service (3.8%), and surgery (3%). The most common reasons for consultation included chronic cough (22.3%), asthma (17.6%), wheezing (11.3%), urticaria/angioedema (10%), atopic eczema (8.6%), allergic rhinitis (6.9%), and eruption/itching (6.5%). The diagnosis of allergic disorders in our clinic were asthma (31.8%), rhinitis (15.4%), wheezy infant (12%), urticaria/angioedema (11.7%), atopic eczema (9.9%), and adverse drug reaction (4.3%). Elapsed time between patient's first referral to our hospital and his/her consultation was ranged from 2 minutes to 15 days, with a mean duration of 4 hours. Response time to consultations differed from 1 minute to 2 days (mean duration: 55 minutes).

Conclusions: Consultation is crucial in preventing misdiagnosis, improving the accuracy of diagnosis, and the appropriate management of diseases. Therefore, we hope the information about pediatric experience given in this study could be valuable and very useful for both the allergists as consultant and other counseling physicians.

Key Words: Child, pediatric, allergy, consultation

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ÖZET:

Giriş ve Amaç: Tanı konulmasında zorluk yaşanan hastalarda konsültasyonlar, doktorlar arasında doğru tanı ve uygun tedavi için gerekli bir gereç olmaya devam etmektedir.

Materyal-Method: 1 Eylül 2008 ve 31 Ağustos 2009 tarihleri arasında Pediatrik Allerji Kliniğimize konsülte edilen toplam 1019 hastanın hastane kayıtları retrospektif olarak incelendi.

Bulgular: Yaşları 3 ay ile 18 yaş arasında değişen toplam 1019 hastanın konsültasyon bilgileri gözden geçirildi. Bunların 635'i (%62.3) erkekti. Konsültasyonların %71.8'i pediatri kliniklerinden, %15'i yan dal kliniklerinden, %6.4'i dermatoloji polikliniğinden, %3.8'i acil polikliniğinden ve %3'ü cerrahi kliniğinden istenmişti. Konsültasyonların en sık istenme nedenleri ise %22.3'ünde kronik öksürük, %17.6 astım, %11.3 hışıltılı infant, %10 ürtiker/anjioödem, %8.6 atopik egzema, %6.9 allerjik rinit ve %6.5 döküntü/kaşıntı idi. Kliniğimizde konulan allerjik tanılar ise astım %31.8, rinit %15.4, hışıltılı infant %12, ürtiker/anjioödem %11.7, atopik egzema %9.9 ve ilaç reaksiyonu %4.3 idi. Hastanın hastaneye ilk başvurusu ile konsültasyon istenme süresi 2 dakika ile 15 gün arasında değişmekte olup ortalama 4 saattir. Konsültasyonların cevaplanma süresi ise 1 dakika ile 2 gün arasında değişiyordu (ortalama 55 dakika).

Sonuç: Konsültasyonlar yanlış tanı konulmasının önlenmesi, tanı doğruluğunun pekiştirilmesi ve hastalığın uygun şekilde yönetilmesi için önemlidir. Bu sebeple, bizim bu çalışmada pediatrik tecrübelerimiz hakkında verdiğimiz bilgilerin hem allerjistler hem de konsültan hekimler için değerli ve yararlı olacağını umuyoruz.

Anahtar Kelimeler: Çocuk, pediatrik, allerji, konsültasyon

INTRODUCTION

Allergy consultation is one of the most frequently requested services for in- and outpatient care. Allergists provide a valuable consultation service in the assessment and management of allergic diseases and they as consultant also contribute to the accurate diagnosis and appropriate treatment of patients in other departments/units within the hospital. Consultation on difficult diagnostic problems related to allergic diseases is also crucial in preventing misdiagnosis and in improving the accuracy of medical decision. On the other hand, there have not been so many studies of consultations in pediatric allergy (1). In fact, it could be beneficial in the education of the pediatric residents to have detailed knowledge about consultations requested from the allergy department. The

objective of this retrospective study was to provide some insights into allergy consultation process by reviewing pediatric experience at our allergy department.

The allergists as consultants provide a valuable in- and outpatient consultation service in the diagnosis, assessment, and management of pediatric patients. The information about pediatric experience given in this study could be very valuable and useful for both the allergists as consultant and the other counstants in future medical decision-making process. We believe that the information given in this study will help the allergists and the other related physicians to function optimally as members of the health care team for the ultimate benefit of the patients we serve.

METHODS

A retrospective study was done on consultations of 1019 patients who were consulted at the Department of Allergy at Dr. Sami Ulus Research and Training Hospital of Women's and Children's Health and Diseases, Ankara, Turkey between 1st September 2008 and 31st August 2009. In this study, we evaluated consultations by using the automated medical system records of the Hospital. The ages and gender of patients, the reasons for consultations, counseling clinics, consultation and response times were recorded. Chest X-ray, pulmonary function tests, specific IgE and skin prick tests (food, aeroallergen and drug) as diagnostic tests were performed to patients. Ethical approval was granted by local ethics committee.

RESULTS

During the 12-month period of this retrospective study, a total of 7312 patients were evaluated at the allergy outpatient department and among them, 1019 (13.9%) were counseled from other departments. The number of outpatient consults was 873 (85.7%). There were 635 (62.3%) boys and 384 (37.7%), girls. The patients' ages were between 3 months and 18 years (median 50 months, mean 61.3 ± 48.5 months). The most consultation requests were received at ages between 5 to 12 years (37%) when compared with other age groups. Table I describes the basic characteristics of our patients.

The most common reason for consultation was chronic cough (22.3%). Table 2 shows the other reasons for consultations in detail.

Consultations were requested by clinics of pediatrics (71.8%), sub-branch clinics (15%), dermatology (6.4%), emergency service (3.8%), and surgery (3%). Table 3 shows the reasons for consultations according to counseling clinics.

As a result of our evaluations, among the consults 31.8% of the patients were diagnosed as asthma, 15.4% as rhinitis, 12% as wheezy infant, 11.7% as urticaria/angioedema, 9.9% as atopic dermatitis, and 4.3% as drug allergy. Table 4 shows the relevant numbers in detail. According to the age groups, the most common diagnosis

were wheezy infant (12.2%) at 0-2 years, asthma at 2-5 years (11.4%) and 5-12 years (15%), and allergic rhinitis (20%) at older than 12 years old.

Table 1. The characteristics of the patients

	n	%
Age range		
0-2 years	317	31.1
2-5 years	249	24.4
5-12 years	377	37
>12years	76	7.5
Gender		
Boys	635	62.3
Admission type		
Outpatient	873	85.7
Inpatient	146	14.3
Season of admission		
Spring	331	32.5
Summer	290	28.5
Winter	248	24.3
Autumn	150	14.7

Table 2. The reasons for consultations

The Reasons	Number of patients	%
Chronic cough	227	22.3
Asthma	179	17.6
Wheezy infant	115	11.3
Urticaria/angioedema	102	10
Atopic eczema	88	8.6
Allergic rhinitis	70	6.9
Eruption/Pruritus	66	6.5
Drug allergy	57	5.6
Dispnea	30	2.9
Food allergy	27	2.6
High level of IgE	18	1.8

Table 3. Reasons for consultations according to counseling clinics

	Pediatrics outpatient clinic	Pediatrics inpatient clinic	Sub- branched clinics	Dermatology clinic	Surgery clinic	Emergency Department
Chronic cough	186	8	27	2	1	3
Asthma	122	31	10	1	2	13
Wheezy infant	73	29	12	0	0	1
Urticaria/angioedema	64	7	12	5	0	14
Atopic eczema	31	1	4	50	0	2
Allergic rhinitis	51	0	12	0	6	1
Eruption/Pruritus	40	3	11	2	9	1
Drug allergy	20	9	17	2	4	5
Dispnea	21	1	8	0	0	0
Food allergy	8	3	15	1	0	0
High level of IgE	6	3	9	0	0	0
Hypereosinophilia	3	1	3	0	0	0
Anaphylaxis	0	1	0	0	0	1

Table 4. The diagnosis of the patients from our clinic.

Diagnosis	n	%
Asthma	324	31.8
Rhinitis	157	15.4
Wheezy infant	122	12
Urticaria/angioedema	119	11.7
Atopic eczema	101	9.9
Drug allergy	44	4.3
Chronic pulmonary diseases	9	0.9
Food allergy	6	0.6
Venom allergy	2	0.2

Among all these counseling patients, 357 (35%) had other accompanied diseases. Accompanied diseases were gastro-esophageal reflux (38%), adenoid hypertrophy

(6.2%), congenital heart disease (25.9%), and immunodeficiency (4.5%). Skin prick tests were performed in 518 patients, and 21.8% of them had positive test. Elapsed time between patient's first referral to hospital and his/her consultation was ranged from 2 minutes to 15 days with a mean duration of 4 hours. Response time to consultations differed from 1 minute to 2 days (mean duration: 55 minutes). Mean elapsed time between the referral and consultation was 45 hours for inpatients and 2 hours for outpatients.

The diagnosis of the patients according to the symptoms was evaluated. Asthma was diagnosed at 128 of the 227 patients consulted for chronic cough, allergic rhinitis was diagnosed at 49/227 and chronic pulmonary disease was diagnosed at 6/227 patients. Among 256 patients consulted for cutaneous symptoms (eruptions, urticaria, atopic eczema, angioedema); atopic eczema was

diagnosed at 98, urticaria was diagnosed at 95, and drug allergy was diagnosed at 8 patients.

DISCUSSION

The admission type of the allergy patients vary due to locations of the hospitals, season, environmental factors and demographic characteristics of the patients. Turkey has different climate and vegetation structure in different regions. Therefore, it is expected that the pollen types in the atmosphere, the density, and diversity of the pollens show regional differences. Our hospital is in the region of Central Anatolia, in the city center of Ankara, capital and second crowded city of Turkey. The hospital is an education, research and tertiary hospital, giving education programme to general pediatric residents and sub-branch clinics' fellowships.

In our study, the vast majority of consultation demands were requested by clinics of pediatrics (71.8%) and for outpatients (85.7%). Consultations from emergency department was only 3.6%.

The top three reasons for consultations were chronic cough, asthma, and wheezy infant in our study. Dietrich et al evaluated a total number of 1412 patients in their allergy/immunology outpatient clinic at all age groups including 494 pediatric patients (1). They found the first three most common reasons for consultations were chronic rhinitis, asthma, and food allergy. In another study, asthma was the most common reason for inpatient consultation, with a number of 350 pediatric patients between 1995 and 1999 (2). A study which was done between the years of 1987-2001, a total number of 1284 inpatient consultation were evaluated, 391 were children and asthma; reported as the most frequent reason for consultations (3). On the other hand, in our study only children were included and both in- and outpatient consultations were evaluated.

In our study, chronic cough was the most important reason for consultations. It can be as the result of higher susceptibility of children to infections and it is not known how much of the patients with chronic cough, may turn

into asthma. Asthma is the most common chronic disease of childhood. There is a complex relationship between asthma and chronic cough. Cough or wheezing with dyspnea is the main symptoms of asthma. But in childhood, respiratory symptoms related to other diseases are more common, so the children sometimes mistakenly diagnosed as asthma. Therefore, asthma should be considered in the differential diagnosis of cough lasting for more than 4 weeks, and if possible, these children should be evaluated by allergists (4). In addition, the number of children with chronic cough, drug use, and costs of these children are very high in the worldwide. Consistent with previous studies, the leading reason for consults was cough and the main diagnosis was asthma in our study.

Allergic rhinitis is also one of the most common chronic diseases during childhood. It is common world-wide and 10-20% of the population is affected by allergic rhinitis. Its symptoms starts before the age of 20 in 80% of individuals and 40% of the patients become symptomatic by the age of 6 (5). According to ISAAC Phase II study, the prevalence of seasonal allergic rhinitis varies between 8.3% and 30.6% in Turkey (6). It was the second most common diagnosed allergic disorder in our study and allergic rhinitis was mostly seen in patients older than 5 years old. This finding was also consistent with literature.

Another most common chronic and pruritic cutaneous disease of childhood is atopic eczema. Its prevalence has increased 2 or 3 fold in the industrialized countries in the last 30 years. Atopic eczema can be the first sign of allergic diseases seen in later stages of life. It is known as allergic March which starts with atopic eczema and goes with asthma and allergic rhinitis (7,8). Dietrich et al reported the consultation rate of 4.8% for atopic dermatitis among all ages and 16.9% among 0-5 years of children in their study (1). In our study, it was diagnosed at 8.6% of consulted patients. All of the patients diagnosed as atopic eczema were at the 0-2 years. Although the number of patients consulted for suspected food allergies were 27 (2.6%) and only 6 (0.6%) of them were diagnosed as food allergy in our allergy clinic. The incidence of food allergy among children is reported around 5% (9). In a

study from Turkey, Ig-E mediated food allergy was found 0.8% in 6-9 year old children (10). An outpatient consultation study reported that the rate of anaphylaxis was 1.8% in 0-18 age group (1). Consultation related anaphylaxis was quite low. Only two patients were consulted for suspected anaphylaxis. One of them was related to penicillin and the other one was related to venom.

CONCLUSION

Consultation on difficult diagnostic problems is crucial in preventing misdiagnosis and in improving the accuracy of diagnosis and the appropriate management of allergic diseases. In conclusion, we found the most common reasons for consultations from our allergy clinic were chronic cough, asthma, and wheezing. Pediatric allergy departments should also prepare themselves to consultations by knowing their properties. It is beneficial in education of assistants to know the main reasons for consultations from allergy department at hospitals giving education to pediatric allergy fellowship.

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