DOI: 10.5958/j.2319-5886.2.3.084

International Journal of Medical Research & Health Sciences

www.ijmrhs.com Volume 2 Issue 3 July - Sep Coden: IJMRHS Copyright @2013 ISSN: 2319-5886

Received: 8th May 2013 Revised: 9th Jun 2013 Accepted: 11th Jun 2013

Research article

CORRELATION BETWEEN ALLERGY SKIN TESTS AND ASTHMA IN CHILDRENS OF PRISHTINA KOSOVO

*Hajdin Ymeri, Drita Telaku-Qosaj, Majlinda Berisha, Arlinda Maloku

Pediatric Clinic, University Clinical Center of Kosovo, Prishtina Kosovo

*Corresponding author email: dr_ymeri@yahoo.com

ABSTRACT

Aim: of this study was to present the correlation between allergy skin prick tests and asthma in children treated in Pediatric Clinic. **The examinees and methods:** The examinees were children aged 2.5-16 years with asthma, treated in the Pediatric Clinic during the calendar year November 2011-November 2012. In this research, in total, were included 58 children treated with asthma, both as inpatient and outpatient. To all children allergy skin tests were done. **Results:** Out of all children included in the research, in 30 (51.71%) children allergy skin tests were positive while 28 (48.29%) of them had negative skin prick tests. According to the age of 2.5-6 years were 18 children or (31.04%), from 6-11 years were 29 children or (50%) and from 11-16 years were 11 children or (18.96%). From the positive skin prick test group highest number 17 (56.6%) children belong to the age group 6-11 years, than regarding the gender ratio males : females was 3:2. From the positive skin prick test group children were sensitive towards D. Pteronissinus, D.Farine and less to pollen, epithelial pets (dog, cat) and other reagents inhalation. **Conclusion:** From our data noted that the allergy skin tests are an auxiliary method in asthma diagnosis. Higher incidence was noted in male children. We can conclude that there is a evident relation between asthma and skin allergy tests.

Keywords: Asthma and skin allergy tests.

INTRODUCTION

Asthma is a chronic inflammatory condition of the airways that is characterized by chronic inflammation followed by airflow obstruction that can pass spontaneously or with medication [1]. Most epidemiological studies show increased prevalence and incidence in the last 10 years in many countries with a tendency of increase in the future[2]. Asthma is a disease in which many factors affect genetic predisposition or mutations and their polymorphism affect disease development, genes responsible are localized in long arm of chromosome 6 and 11, in the short arm of chromosome 20 and chromosome 17.[3,4] Common symptoms include wheezing, coughing, chest tightness, and shortness of breath. Asthma management is aimed to reduce airway inflammation exposure, using daily “controller” anti-inflammatory medications, and controlling

comorbid conditions that can worsen asthma[5]. It is presumed that bacterial colonization of the throat in neonates increases the risk for wheezing and asthma later in childhood[6]. Until the puberty boys are more attracted from asthma due to bronchal hyper reagibility, also the skin allergy test reactivity to inhaled allergens and level of IgE is increased[7]. Obesity, pneumoallergens (D.Pteronissinus, D.farine), tobacco smoke, as well environmental pollution, combustion of oil products, plastic and other contaminants have a positive impact on development of asthma[8]. In most cases, asthma is associated with atopy with a predisposition to increased IgE in allergens surrounding the child[9].

Aim: Aim of this study was to present the correlation between allergy skin tests and asthma in children treated in the Pediatric Clinic during one year (November 2011-2012).

PATIENTS AND METHODS

The examinees were children with asthma treated in Pediatric Clinic- Department of Pulmonary diseases. In the research were included 58 childrens, both hospitalized and children treated as an outpatient. According the age, the examinees were divided in three groups, first group aged 2.5-6 years (N=18), second group 6-11 years (N=29) and third group 11-16 years (N=11). From the research were excluded children suffering from chronic diseases, systemic and other diseases that could have an impact on the skin prick test. Also written permission from parents was obtained for participation in the research. Diagnosis was done based on the anamnestic data, clinical and laboratory evaluation for asthma. Skin prick test was done in the forearm, whereas allergens were apart 2-3 cm from each other. Positive skin prick test was considered when diameter of swelling was over 3 mm, histamine test was positive reaction in physiological solution was negative. The tests were not done in children who 24 hours earlier had taken oral corticosteroids, β_2 agonist or even 72 hours antihistaminic agents.

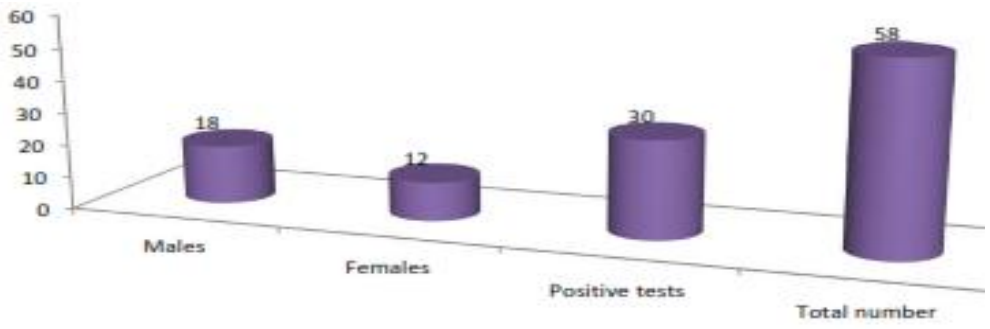
RESULTS

In the research were in total 58 children. In the figure 1 were presented children treated from asthma that were hospitalized 19 of which 11 (18.9%) were males, 8 (13.8%) were females and treated as an outpatient were 39, 22 males (37.9%) and 17 females (29.4%)

Table.1: Children treated from asthma in Pediatric Clinic

	Number		Percentage
Hospitalized children (inpatient)	11 males	19 inpatients	18.9
	8 females		13.8
Outpatient	22 males	39 outpatients	37.9
	17 females		29.4
Total	58 children		100

Fig.1: Comparison of skin prick positive test by gender



Regarding the gender, out of children that had positive skin prick test results, 18 (60%) children were males and 12 (40%) children were females.

Total number of prick skin test was 58,with positive tests were 30 (51.27%)children.

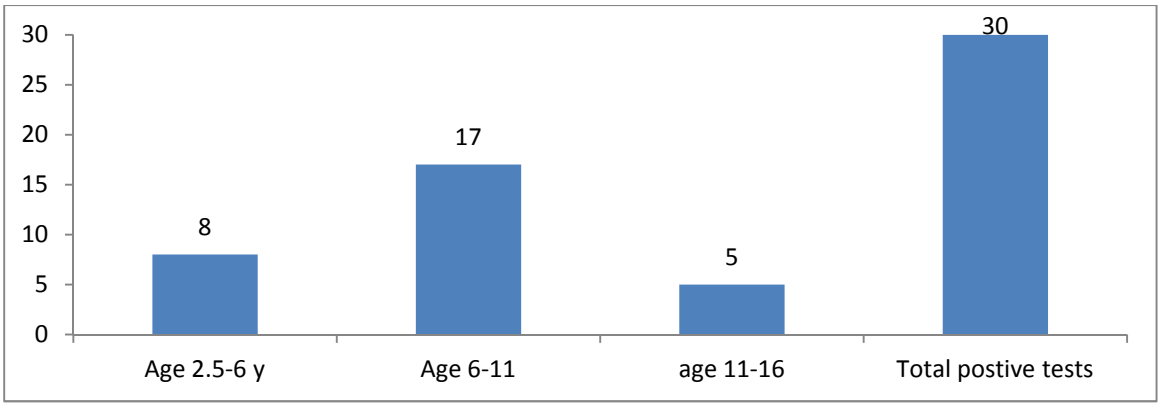


Fig.2: Age distribution in positive skin prick test group

DISCUSION

From the total number of children included in the research, in which skin prick test was done 18 (32.75%) children were hospitalized, while 39 (67.24%) children were treated as an outpatient. Regarding the age highest number of children 29 children (50%) belonged to the age group 6-11 years, then comes age group 2.5-6 years with 18 children (31.04%) and age group 11-16 years with 11 children (18.96%). This distribution is justified by the fact that allergy can lead to persistent asthma usually over age 6[10, 11]. Analyzing data of the positive skin prick test group highest number of children belonged to the age group 6-11 years with 17 children (56.6%), then comes age group 2.5-6 years with 8 children (26.6%) and age group 11-16 years with 16.6%). According to gender from the positive skin prick test group ratio males : females was 3:2, what can be explained by the fact that the incidence of asthma in prepuberty children is 1.5-2:1 in favor of males, while in puberty ratio narrows to 1:1.

Skin prick tests in our research group showed greater positivity toward D.Ptronissinus, D.Farine, less to pollen and epithelial domestic animals (dog, cat). Prick skin test is a very important diagnostic tool in children with asthma, although in 25-50% of cases it can be negative due to non atopic asthma, while even in cases (5-15%) when it is positive, children do not have asthma [12]

CONCLUSION

As we can see from the results, skin prick test have an important role in diagnosing asthma. This method has also its economic advantages as it is less expensive than the RAST method (Specific IgE). The skin tests may be a reliable indicator for diagnosing children with asthma. Our data correspond well with the data of other authors (13).

Eliminating and reducing problematic environmental exposures: limiting smoke exposure both in utero and after delivery, breastfeeding, to avoid pats, akarien, reducing or eliminating compounds know to sensitive to children from home may be effective.

REFERENCES

1. Global Strategy for Asthma (GINA) 2002, www.ginasthma.org
2. Patel SP, Jarvelin MR, Little MP. Systematic re-view of worldwide variations of the prevalence of wheezing symptoms in

children. Environ Health (publisher in internet) 2008.
3. Meyers DA.Genetiks of astma and allergy . J.Allergy Clin Imunol 2010;126:439-46
4. Ober C, Yao TC.The genetics of asthma and allergic disease : a 21st century perspective . Immunol Rev 2011;242:10-30
5. Lemanske RF Jr, Jackson DJ, Gangnon RE I sur. Rhinovirus illnesses during infancy predict subsequent childhood wheezing. J Allergy ClinImmunol 2005; 116-571-77.
6. Bisgaard H, Hermansen MN, Buchvald F . Childhood asthma after bacterial colonization of airway in neonates. N Engl J Med 2007 ;357:1487-95
7. Osman M. Therapeutic implications of sex differences in asthma and atopy. Arch Dis Child. 2003;88:587-90
8. Rusznak C, Sapsford RJ,Devalia JL. Cigarette smoke and house dust mite allergens on inflammatory mediator release from primary cultures of human bronchial epithelial cells.Am J Respir Cell Mol Biol 1999;20:1238-50
9. Sly PD, Boner AL, Björksten B. Early identification of atipy in the prediction of persistent asthma in children .Lacent 2008;372:1100-6
10. Nelson textbook of Pediatric 19th edition, 2011, 130:743-747
11. Kurukulaaratchy RJ, Matthews S, waterhouse L, Arshad SH. Factors influencing symptom expression in children with bronchial hyperresponsiveness at 10 years of age. J Allergy Clin Immunol 2003; 112:311-6
12. EvdaVevecka, Luljeta Kote. Illness of children with respiratory tract. 2005:215-216
13. Kovač K, Dodig S, Tješić-Drinković D, Raos M. Correlation between asthma severity IgE in asthmatic children sensitized to Dermatophagoides pteronyssinus. Arch Med Res 2007;38:99–105.