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A COMPARATIVE STUDY OF SKIN PRICK TEST (SPT) VERSUS SERUM-SPECIFIC(SS) IGE MEASUREMENT IN PAKISTANN PATIENTS WITH BRONCHIAL ASTHMA AND ALLERGIC RHINITIS IN NISHTER HOSPITAL MULTAN

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Abstract:

Background: *SPT is the 'highest quality level' to analyze the unfavorably susceptible affectability to inhalant allergens. SSIgE estimation is corresponding test. To extract antigen in* ***Pakistan*** *skin prick test is used.*

Goals: *To access the efficiency of unfavorably susceptible by SSIgE against the aeroallergens of mosquitoes, flies or croak roach, these are as often as possible ensnared in driving respiratory sensitivities in Pakistan considering skin prick test as the 'best quality level'*

Techniques: *In this study 20 patients were selected having the mean age of 28 years. These patients were analyzed in order to know the assessment of Bronchial asthma and allergic rhinitis. In SSIgE testing affectability, explicitness, Negative and Positive predict value PPV were determined through skin prick test. The relationship in skin prick test and SSIgE levels was additionally assessed.*

Finding: *The SSIgE testing is very sensitive to every aero allergen was greater than 85%. Positive predict value for the SSIgE of mosquitoes and cockroach was greater than 85% and in case of house flies it was greater than 68%.*

Conclusion: *The sensitivity and positive predict value is very high in SSIgE, yet needs particularity. Due to the increased sensitivity and low particularity has expanded the bogus positive assessment of diseases due to allergens. In contrast to allergenic dusts, be that as it may, creepy crawly antigen removes from various areas appear that these gave equivalent outcomes, and can subsequently be utilized in the assessment of allergy.*

Keywords*: Skin prick test, Serum specific IgE, Asthma, Allergy, Rhinitis.*

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INTRODUCTION:

Allergic diseases IgE is very common in **Pakistan,** a large numer of patients are suffering asthma or rhinitis. To determine these condition clinical assessment and history is required, and foundation of sensitivity requires either SSIgE levels or SPT to significant allergens.

Findings from the researches of western have indicated that SPT is more touchy than SSIgE.2-4 So, SPT is all the more ordinarily utilized in testing of allergens, but vitro tests are viewed as complementary.3 SPT has been viewed as the 'best quality level' for the evaluation of inhalant allergen affectability. Results are deciphered with regards to clinical history.

When testing results are matched with the previous history, from this allergy can be diagnosed.

The patients in which this connection isn't diagnosed or SPT can't be appropriately translated because of dubious reaction, the vitro testing is very helpful other option. In these kind of cases SSIgE testing is very useful with the end goal that proposals in regards to shirking measures and immunotherapy can even now be made. SSIgE gives information that relates highest quality level SPT results while presenting introduction of allergen immunotherapy.5 So, we need to think about in which way antigen remove arrangement of SSIgE and SPT from various verdure influence the test brings about the populace viable. As far as we could possibly know there have been no investigations corresponding SPT and SSIgE done in Pakistan.

METHODOLOGY:

In the Jinnah hospital Lahore, this study was conducted. In this 20 patients were selected with the mean age of 28 years. These selected patients were analyzed in order to know the assessment of Bronchial asthma or allergic rhinitis or both. In SSIgE testing sensivity, explicitness, Negative and Positive predict value PPV were determined through skin prick test. The relationship in skin prick test and SSIgE levels was additionally assessed.

The SSIgE and SPT test were conducted against mosquitos, housefly and cockroach by the same researcher. For the skin test, a little drop of allergen extract was put on the outside of the lower arm.

At that point a dispensable hypodermic needle (26G) was gone by the drop with its incline looking up and embedded into the skin about 1mm at a low edge. The needle tip was tenderly lifted upwards a piece without instigating draining and afterward pulled back gradually. After around 2 minutes, the drop was tenderly cleared off with dry cotton. The test perusing was done following 15-20 minutes. Atopy was characterized as a positive SPT in which the wheal breadth is >3 mm when contrasted with the negative control (cushion saline) for in any event one aeroallergen. An allergen-prompted skin wheal reaction identical to the histamine reaction was reviewed as 2+. Skin reactions of 2 mm less or 2 mm more than the histamine response were evaluated as 1+ and 3+, separately. A wheal reaction of more noteworthy than 3+ was reviewed as 4+.

Statistical Investigation:

This study presented the comparison of SSIge and SPT. The affectability, particularity, positive PPV and negative predict value NPV were determined for correlation with the SPT. The Z test for extents was utilized to think about the yield of the two tests. Single direction examination of change (ANOVA) was utilized to figure the connection of SPT and SSIgE levels. The information investigation was finished by Statistical Package for the Social Sciences

RESULT:

The SSIgE testing is very sensitive to every aero allergens was greater than 85%. Positive predict value for the SSIgE of mosquitoes and coakcroach was greater than 85% and in case of house flies it was greater than 68%. In this 22 patients were selected 2 of them were excluded due to negative result of SPT. The mean age of all patients was about 28.5 years in which 16 were males. In this 6 was diagnosed for rhinitis and 3 of them was suffered in asthma and overall 13 of them were suffered in both rhinitis and asthma and these deseas prolong up to 14 years. The following table includes the comparison of SPT and SSIgE. In majority of the patients SSIgE was positive comparatively with SPT.

Table 1. Proportion of positive SPT and SSIgE results

Allergen (n=20)	SPT No. (%)	SSIgE No. (%)	p-value
Cockroach	(70)15	(75)1	
Mosquito	(90)18	(90)1	
Housefly	(60)16	(80)0.30	

The SSIgE testing is very sensitive to every aero allergen was greater than 85%. Positive predict value for the SSIgE of cockroach and mosquitoes was greater than 85% and it was greater than 68% in case of house flies.

Table 2. Characteristics of SSIgE for 3 aero-allergens considering SPT

Allergen (n=20)	Sensitivity (%)	Specificity (%)	P P V (%)	NPV (%)
Cockroach	92.8	66.6	86	80
Mosquito	85	50	94	50
Housefly	91.6	37	68.7	75

The following table showing the discordant and concordant of SSIgE and SPT. 92.8% patients were positive concordant and 66% of patients were negative concordant. Testing for mosquito negative and positive concordance was 50 and 94% resp. Likewise the positive and negative concordant for house flies was 91% and 37% resp.

Table 3. Discordant and Concordant SPT and SSIgE results

SPT and ImmunoCAP Comparison	**Cockroach (n=20)**	**Mosquito (n=20)**	**Housefly (n=20)**
Concordant Results (Both + or both –)	17/20	18/20	11/20
SPT+ among those with +SSIgE	13/15	17/18	11/16
SPT– among those with +SSIgE	2/15	1/18	5/16
SPT+ among those with –SSIgE	1/5	1/2	1/4
SPT– among those with –SSIgE	4/5	1/2	3/4
+SSIgE among those with +SPT	13/14	17/18	11/12
–SSIgE among those with +SPT	1/14	1/18	1/12
+SSIgE among those with –SPT	2/6	1/2	5/8
–SSIgE among those with –SPT	4/6	1/2	3/8

In this study the relation was of SPT and SSIgE was also evaluated that is in the following figure. In this a relation was found for cockroach allergy at p= 0.003 and for mosquitoes at p=0.045 and for housefly allergy at p=0.040

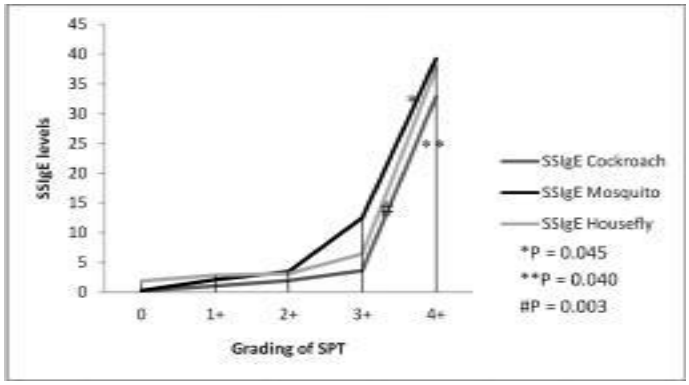

Figure 1. Correlation of SPT grades and SSIgE values.

DISCUSSION:

In this study sensitivity is based on connection and side effects of allergy with hypersensitivity tests to clinically pertinent allergens.9 In the present investigation of patients with hypersensitivity driven asthma and rhinitis, correlation of SPT and SSIgE results for 3 regular air allergens in 20 patients was assessed. Mostly allergens of the cockroaches were found in the kitchen, sink, washrooms and also in the carpet of rooms etc.

Other than cockroaches and residue parasites, inhalant sensitivity to creepy crawlies was portrayed at first in 1970s. After that pattern was expanded to high rates for some, allergens. From 200 patients 60 tried to remain in limit to at any rate one of five bugs (housefly, woodworker subterranean insect, and caddisfly). 36 patients were diagnosed for the positive SPT due to the allergens of housefly.

In the following observation 20 patients were chosen with the mean age of 28 years. These patients were observed in order to know the valuation of Bronchial asthma and allergic rhinitis. In SSIgE testing affectability, explicitness, Negative and Positive predict value PPV were determined through skin prick test. The connection in skin prick test and SSIgE levels was additionally assessed. The testing of SSIgE was very delicate to every aero allergen was greater than 85%. Positive predict value for the SSIgE of mosquitoes and cockroach was more than 85% and in the case of house flies it was higher than 68%.

There are a few other conceivable components adding to the prominent contrasts in SSIgE and SPT results for same allergen. In the first place, from various sources, the antigenic material were utilized for SSIgE and SPT testing . Non-institutionalized concentrates may have variable strength because of defilement with different proteins, allergens and catalysts, along these lines prompting increasingly factor results.20 Other elements which impact the aftereffects of SPT incorporates the abilities of the agent, system of cut, measure of allergen infused, precision of translation and the plausibility of cross-responses among the different allergens. Then again, mistakes in assurance of SSIgE may result from type and measure of allergen, demolition of epitope during official on strong stage media, poor IgE authoritative, and expanded degrees of complete IgE prompting bogus positive outcomes due to vague binding.

CONCLUSION:

The conclusion of this study was that sensitivity and positive predict value is very high in SSIgE, yet needs particularity. Due to the high sensitivity with low particularity has expanded the bogus positive assessment of diseases due to allergens. Conversely allergenic dusts, however, creepy crawly antigen removes from various areas appear that these gave equivalent outcomes, and can be used in the evaluation of allergy.

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