RESULTS

Results

The present study was conducted on 40 subjects selected from the E.N.T. out patients clinic, **Zagazig University Hospital**. They were divided into 2 main groups:

Group A: that included 20 healthy control subjects, 10 females and 10 males.

Group B: that included 20 patients suffering from pure allergic rhinitis, 12 females and 8 males. The age of the patients was ranging from 10-47 years with an average of 27.5 years. This group was further subdivided into two subgroups: (B_1, B_2) each including 10 patients.

Table (1) : Sex distribution of the patients of group B.

Sex	*No. of patients*	*%*
Females	12	60
Males	8	40
Total	20	100

Table (2) : Age distribution of patients of group B.

Age group	*No. of patients*	*%*
10-	5	25
20-	7	35
30-	6	30
40-	2	10
Total	20	100

Mean age ±S.D.= 27.5 ±9.665

The results obtained from the studied Cases are represented as' follows:

Group A: Which consisted of twenty normal healthy control subjects. Those subjects were not suffering from anything abnormal in their nose. The results of IgE study of this group are shown in ***Table (3).***

Table (3) : The level of IgE (IU/ml) in the nasal secretion of the subjects of the control group (Group A)

Case No.	*IgE Level (IU/ml)*
1	29.07
2	22.92
3	17.74
4	36.87
5	30.98
6	41.78
7	62.73
8	47.72
9	59.71
10	51.69
11	36.87
12	66.76
13	32.94
14	43.76
15	56.69
16	52.68
17	36.87
18	51.69
19	41.78
20	57.70
Mean	43.95
S.D.	13.54
S.E.	3.02

Range 17.74 to 66.76 IU/ml

Group B : Which consisted of 20 patients with pure allergic rhinitis. The results obtained from studying this group are classified into two main types : Clinical and Laboratory results.

Results of clinical studies :

The following tables (4-8) demonstrate the prevalence and variation in the symptoms of allergic rhinitis in the patients of group B.

Table (4) : The prevelance of symptoms of allergic rhinitis in the patients before nasal challenge.

Symptoms	*Severity*	*No. of patients*	*Prevalence*
Sneezing	(+ + +)	18	90 %
Rhinorrhoae	(+ +)	15	75 %
Itching	(+ +)	10	50 %
Obstruction	(+ + +)	12	60 %

Table (5) : The prevalence of symptoms of allergic rhinitis in the patients during the early phase of nasal challenge.

Symptoms	*Severity*	*No. of patients*	*Prevalence*
Sneezing	(+)	4	20 %
Rhinorrhoae	(+)	3	15 %
Itching	(+)	5	25 %
Obstruction	(+)	2	10 %

Table (6) : The prevalence of symptoms of allergic rhinitis in the patients during the late phase of nasal challenge.

Symptoms	*Severity*	*No. of patients*	*Prevalence*
Sneezing	(+ + +)	19	95 %
Rhinorrhoae	(+ + +)	16	80 %
Itching	(+ + +)	17	85 %
Obstruction	(+ + +)	20	100 %

Table (7) : The prevalence of symptoms of allergic rhinitis in the patients after topical use of steroids for two weeks before nasal challenge.

Symptoms	*Severity*	*No. of patients*	*Prevalence*
Sneezing	(+)	2	10 %
Rhinorrhoae	(+)	1	5 %
Itching	(+)	2	10 %
Obstruction	-	-	0 %

Table (8) : The prevalence of symptoms of allergic rhinitis in the patients after topical use of steroids for 3h. before nasal challenge.

Symptoms	*Severity*	*No. of patients*	*Prevalence*
Sneezing	(+)	3	15 %
Rhinorrhoae	(+)	2	10 %
Itching	(+)	2	10 %
Obstruction	(+)	1	5%

Results of IgE determination using Behring ELISA photometer:

The following tables (9-12) show the level of IgE (IU/ml) in nasal secretions of the patients group.

Table (9) : The level of IgE (IU/ml) in nasal secretions of patients of group B before nasal challenge.

Case No.	*IgE Level (IU/ml)*
1	72.80
2	82.02
3	70.78
4	83.31
5	75.82
6	61.73
7	82.02
8	85.89
9	107.3
10	98.36
11	100.0
12	142.0
13	114.5
14	75.82
15	118.1
16	114.5
17	105.4
18	194.4
19	155.4
20	109.1
Mean	102.46
S.D.	32.36
S.E.	7.23

Range 61.73 to 194.4

Table (10) : The level of IgE (IU/ml) in nasal secretions of patients of group B after nasal challenge.

Case No.	*IgE Level (IU/ml)*
1	174.5
2	196.4
3	168.5
4	190.4
5	212.4
6	168.5
7	176.4
8	157.1
9	103.6
10	147.7
11	110.0
12	138.3
13	202.4
14	157.1
15	153.3
16	112.7
17	109.1
18	110.0
19	138.3
20	110.9
Mean	151.88
S.D.	34.54
S.E.	7.72

Range 103.6 to 212.4

Table (11) : The level of IgE (IU/ml) in nasal secretions of patients of group B, after two weeks of topical use of steroids and nasal challenge.

Case No.	*IgE Level (IU/ml)*
1	45.74
2	30.98
3	72.80
4	50.70
5	90.14
6	63.74
7	35.89
8	29.07
9	44.75
10	67.77
Mean	53.158
S.D.	19.95
S.E.	6.30
Range	29.07 to 72.80

Table (12) : The level of IgE (IU/ml) in nasal secretions of patients of group B2 after topical use of steroids for 3 hours before nasal challenge.

Case No.	*IgE Level (IU/ml)*
1	45.74
2	31.96
3	75.82
4	70.78
5	45.74
6	59.71
7	43.76
8	62.73
9	48.71
10	43.76
Mean	52.87
S.D.	13.798
S.E.	4.36
Range	31.96 to 70.78

Table (13) : Mean values, S.D. of IgE (IU/ml) in nasal secretions of control group (A) and patient group (B).

	Control group	*Patient group*	*t*	*P*
Mean	43.95	102.46	4.459	<0.001
S.D.	13.54	32.36		

This table shows a very high significant difference in IgE among patient group when compared with the control group.

Table (14) : Mean values, S.D. of IgE (IU/ml) in nasal secretions of control group B_1 and patient group B_2.

	Group B1	*Group B2*	*t*	*P*
Mean	53.198	52.87	0.037	<0.05
S.D.	19.95	13.798		N.S.

This table shows that there is no significant difference between mean values of IgE in nasal secretions when measured after 3 hours and after two weeks of topical use of steroids.

Statistical Analysis

The statistical analysis for these results was done using the standard statistical methods :

1. Arithmetic Mean,

$$\bar{X} = \frac{X}{n}$$

Where X=The sum of individual observations.
n= The number of the observations.

2. Standard deviation :

$$S.D. = \sqrt{\frac{(X-\bar{X})^2}{n}}$$

3. Comparing two sample means : The t-test was used to test for the significance of the difference between two means.

$$S.D. = \sqrt{\frac{\bar{X}_1 - \bar{X}_2}{\frac{S.D_1^2}{n_1} + \frac{S.D_2^2}{n_2}}}$$

Where :

X_1=Arithmatic mean of sample$_1$

x_2=Arithmatic mean of sample$_2$

S.D$_1$=Standard deviation of sample$_1$

S.D$_2$=Standard deviation of sample$_2$

n_1=No. of cases in sample$_1$

n_2=No. of cases in sample$_2$

The probability (P) for the calculated values of (t) was obtained from statistical tables.