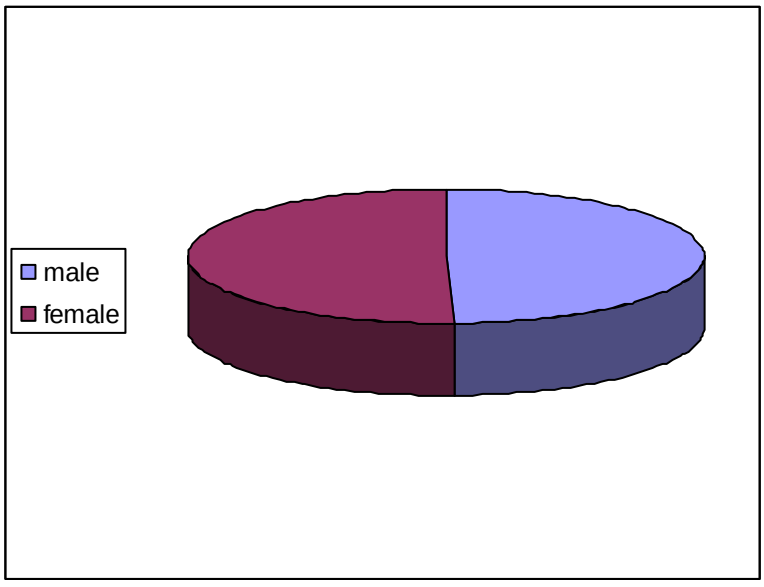
Results

This study was conducted on 75 patients, 38 females (50.7%) and 37 males (49.3%). All patients were presented to ORL clinic of Benha University hospital, then they had been admitted to ENT department of Benha University hospital for elective tonsillectomy.

Table (1): Distribution of the study group according to sex:

Sex / No.	Male		Female	
	No.	%	No.	%
75	37	49.3	38	50.7



Figure(7) : showing sexual distribution of the study group

Table(2): Type of pathogenic organisms isolated from the throat swab cultures:-

organism	Throat swab	%
Staph. aureus	16	21.3
GAS	20	26.6
H. influenzae	0	0
Strept. pneumoniae	1	1.3
E. coli	1	1.3
Klebsiella species	2	2.6
Pseudomonas aeruginosa	1	1.3

GAS= Group A beta hemolytic streptococci.

As shown in this table, Group A beta hemolytic streptococci was the commonest pathogenic organism isolated from the throat swab, in 23 cases (26.6%).

Staph. Aureus was isolated from 16 cases (21.3%)

There were few other pathogenic organisms isolated from throat swab cultures as, E. Coli (1 case, 1.3%), Pseudomonas aeruginosa (1 case, 1.3%), Strept.pneumonia (1 case, 1.3%) and Klebsiella species (2 cases, 2.6%).

H. influenza wasn't isolated from throat swab cultures.

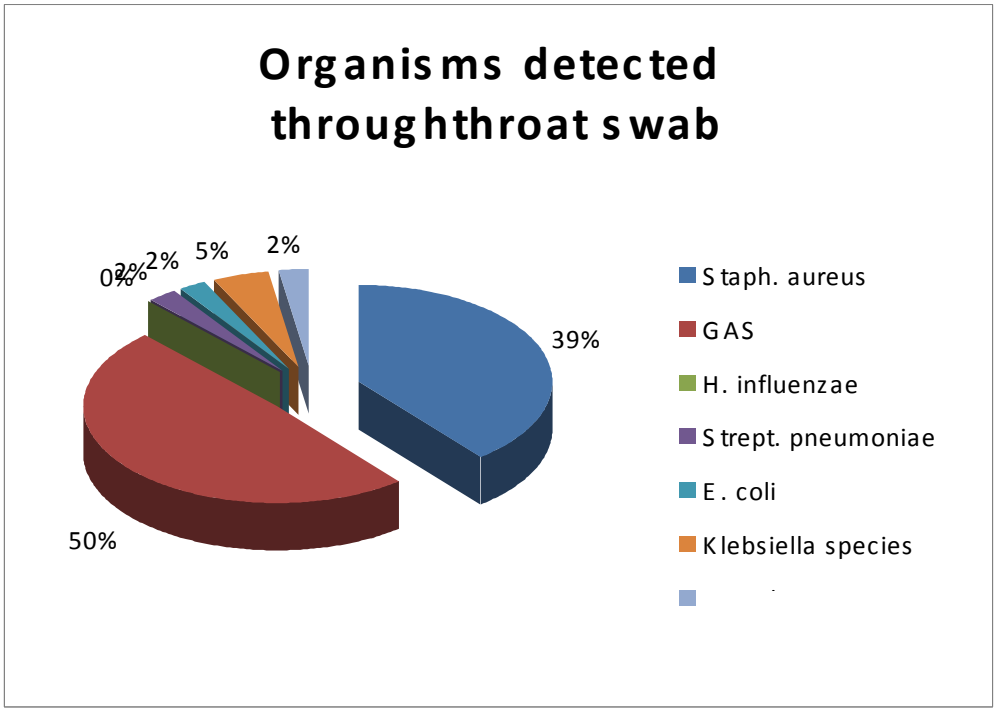


Figure (8): Type of pathogenic organisms isolated from the throat swab cultures.

Table(3): Type of the normal flora isolated from throat swab and tonsil core.

organism	Throat swab		Throat swab and tonsil core		Tonsil core only		Cases yielding that organism	
	No		No		No		No	%
Nisseria catarrhalis	9	19.1	32	68.1	6	12.8	47	100
Strept. viridans	12	41.4	13	44.8	4	13.8	29	100
Strept. Pneumoniae	0	0	0	0	8	100	8	100
Staph. albus	0	0	0	0	3	100	3	100
Lactobacillus	0	0	0	0	2	100	2	100
Diphteroid	2	100	0	0	0	0	2	100

X2= 55.87 **P** = 0.001 Highly significant

This table revealed types of isolated normal flora from tonsillar surface swabs and tonsillar core. Nisseria catarrhalis was the most common normal flora isolated from throat swab and/or tonsil core(62.6% of patients 47/75), 9 cases yielded Nisseria in throat swab, 32 in both throat swab and tonsil core and 6 in tonsil core only. This was followed by Strept.viridans which was isolated from 38.6% of patients(29/75), 12 of which revealed the organism from throat swab, only 13 from both

throat swab and tonsil core and 4 from tonsil core only. Strep pneumoniae, Staph. Albus and Lactobacillus were isolated from tonsil core only.

Diphteroid was isolated only from the surface throat swab in 2 cases(2.6%).

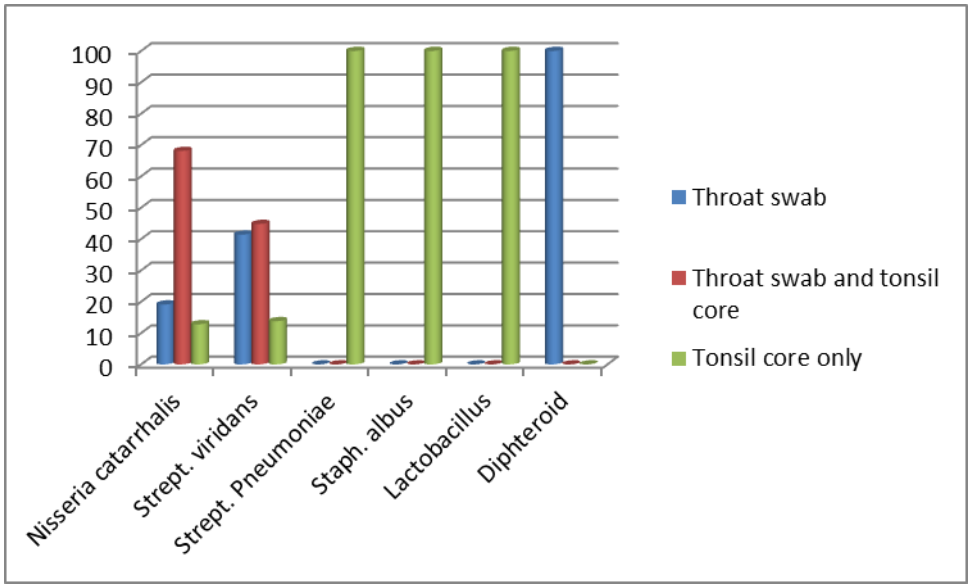


Figure (9) : Type of the normal flora isolated from throat swab and tonsil core.

Table (4): Distribution of Bacteria isolated from excised tonsil cores.

Organism	Total	Chronic Tonsillitis without hypertrophy "recurrent acute tonsillitis"	Chronic tonsillitis with hypertrophy of the tonsil	Hypertrophied tonsils without H/O of recurrent acute tonsillitis
Gram- positives				
S. aureus	35 (25.7%)	14 (26.9%)	16 (22.9%)	5 (35.7%)
β-hemolytic streptococci				
Group A	32 (23.5%)	13 (25%)	18 (25.7%)	1 (7.14%)
Group B	4 (3%)	3 (5.7%)	1 (1.4%)	0
Group C	3 (2.2%)	1 (1.9%)	2 (2.4%)	0
Other streptococci	2 (1.5%)	1 (1.9%)	0 (0%)	1 (7.4%)
Streptococcus pneumoniae	14 (10.3%)	6 (11.5%)	7 (10%)	1 (7.14%)
Gram- negatives				
H.influenzae	38 (27.9%)	11 (21.1%)	22 (31.4%)	5 (35.7%)
K.pneumoniae	5 (3.6%)	1 (1.9%)	3 (4.2%)	1 (7.4%)
Pseudomonas aeruginosa	1 (0.7%)	0	1 (1.4%)	0
Enterobacter	2 (1.5%)	2 (3.8%)	0	0
Total	136 (100%)	52 (100%)	70 (100%)	14 (100%)

X2=16.4 P=0.56 NS

This table shows the distribution of the isolated bacteria from the excised tonsil cores.

It revealed that the common bacterial isolates were S.aureus, H.influenzae and GABHS.

There was some difference between bacterial isolates in the 3 groups of patients in the study.

In the group of chronic tonsillitis without hypertrophy of the tonsils (recurrent acute tonsillitis), Staph.aureus ,GABHS, and H.influenzae are the commonly isolated in order of predominance. But in the group of patients of chronic tonsillitis with hypertrophy of the tonsils, H.influenzae was the most isolated organism followed by GABHS then Staph. aureus.

In the group of hypertrophic tonsils, but don't show other signs of chronicity and no recurrence of acute tonsillitis, revealed little isolates of microorganisms. The commonest of the bacterial isolates was H. influenzae and Staph. aureus.

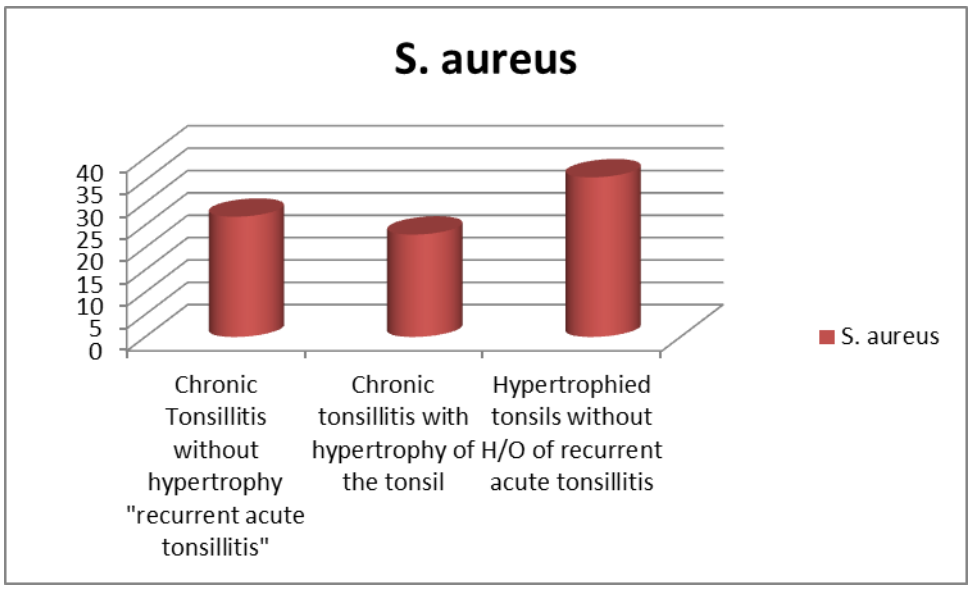


Figure (10) :Distribution of Staph. Aureus in cores of different groups of chronic tonsillitis.

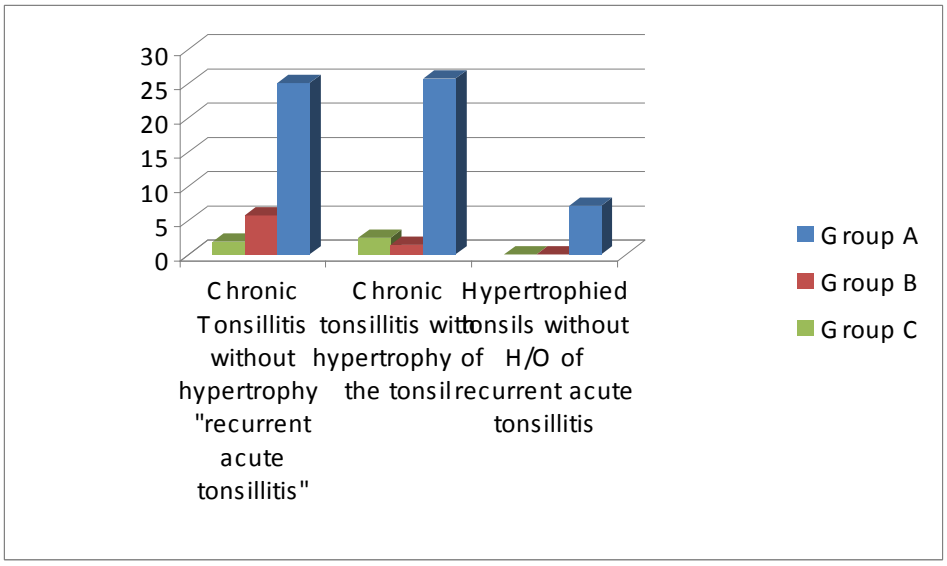


Figure (11): Group A, B, C Streptococci in tonsillar cores.

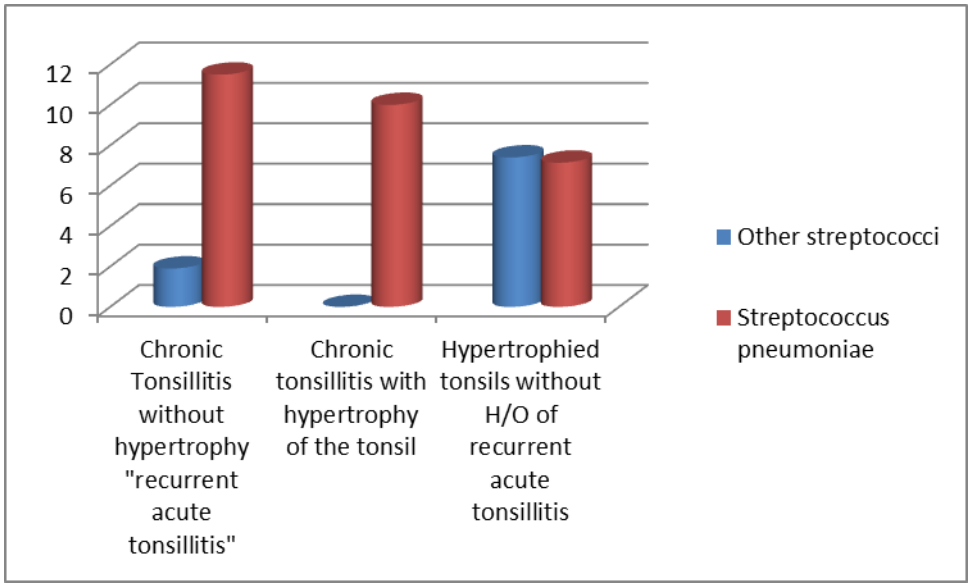


Figure (12) : Distribution of other Streptococci in tonsillar cores.

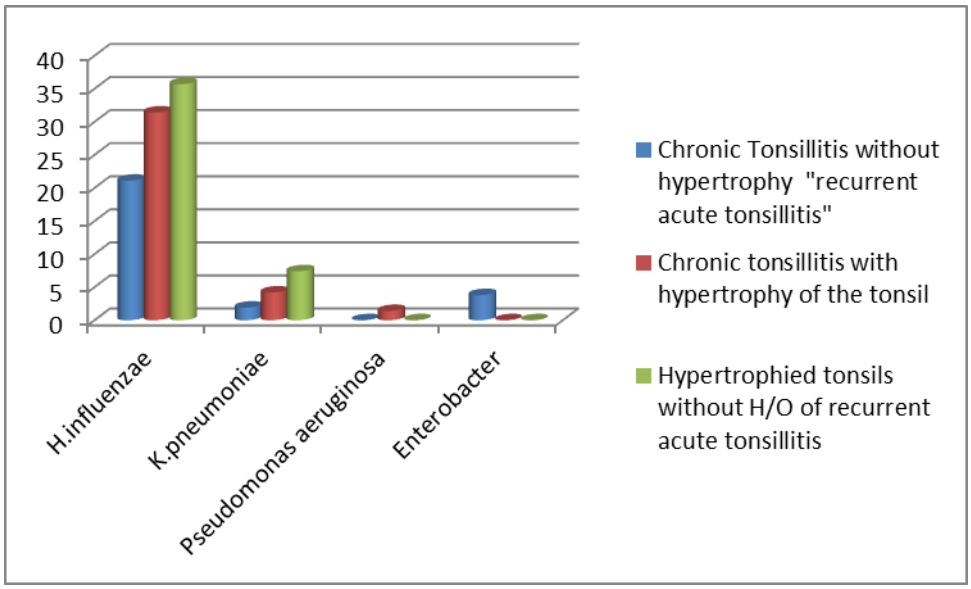


Figure (13): Distribution of other bacteria isolated from tonsillar cores.

Table(5): Comparison between throat swab and tonsil core as regards similarity in detected pathogens.

Throat swab	Tonsil core	No. of patients	%
Same pathogen	Same pathogen	12	16
Same pathogen	Same pathogen + different pathogen	14	18.6
Different pathogen	Different pathogen	7	9.4
Different pathogen + Same pathogen	Same pathogen	–	–
Pathogen	No pathogen	7	9.4
No pathogen	pathogen	35	46.6

Sensitivity = 0.10 **Specificity** = 0.33

Predictive value = 0.47 **P** = 0.07 non significant

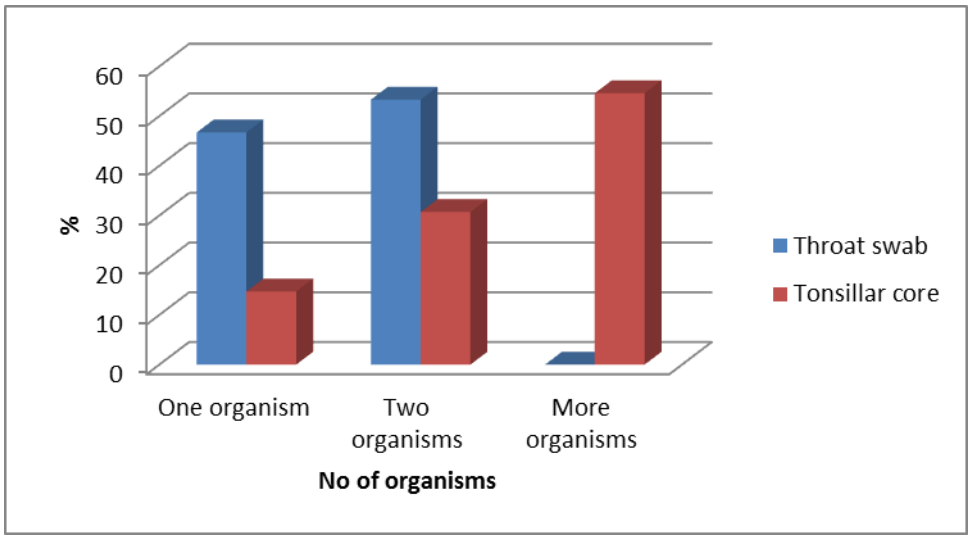
This table shows comparison between throat swab and tonsil core as regards similarity in detected pathogen. It revealed that out of 75 patients, 12 cases (16%) had the same pathogens in both throat swab and tonsil core cultures, 14 cases (18.6%) had the same pathogens in addition to different pathogens in tonsil core cultures. 7cases (9.4%) had different pathogens in both cultures, 7 cases (9.4%) had no pathogens in tonsil core cultures. 35 cases (46.6%) had pathogens in tonsil core cultures with no pathogens in the corresponding throat swab cultures. No cases revealed additional pathogens in throat swab cultures.

No agreement between the results of throat swab and tonsillar core cultures.

Table (6) : Number of organisms isolated from throat swab versus tonsil core.

No. of organisms	Throat swab		Tonsillar core	
	No.	%	No.	%
One organism	35	46.6	11	14.7
Two organisms	40	53.4	23	30.7
More organisms			41	54.6
	75	100	75	100

Chi-square = 58.11 P=0.0001



Figure(14): Number of organisms isolated from throat swab versus tonsil core.

This table revealed the number of organisms isolated from throat swab and tonsillar core cultures, the number of cases yielding one organism in throat swab was 35 cases (46.6%) versus 11 cases (14.7%) in tonsillar core.

The number of cases yielding two organisms in throat swab was 40 cases (53.4%) versus 23 cases (30.7%) in tonsillar core cultures, but 41 (54.6%) cases in tonsillar core cultures yielding more than two organisms versus no cases in throat swab cultures yielding more than two organisms.

The difference between throat swab and core cultures results was statistically significant

Table (7) : Comparison between throat swab and tonsillar core cultures results as regards type of organisms detected.

Type of organism	Throat swab		Tonsillar core	
	No.	%	No.	%
Pathogenic	16	21.3	11	14.7
Commensal	42	56	9	12
Pathogenic and commensal	17	22.7	55	73.3
Total	75	100	75	100

X2=42.33 **P**=0.0001HS

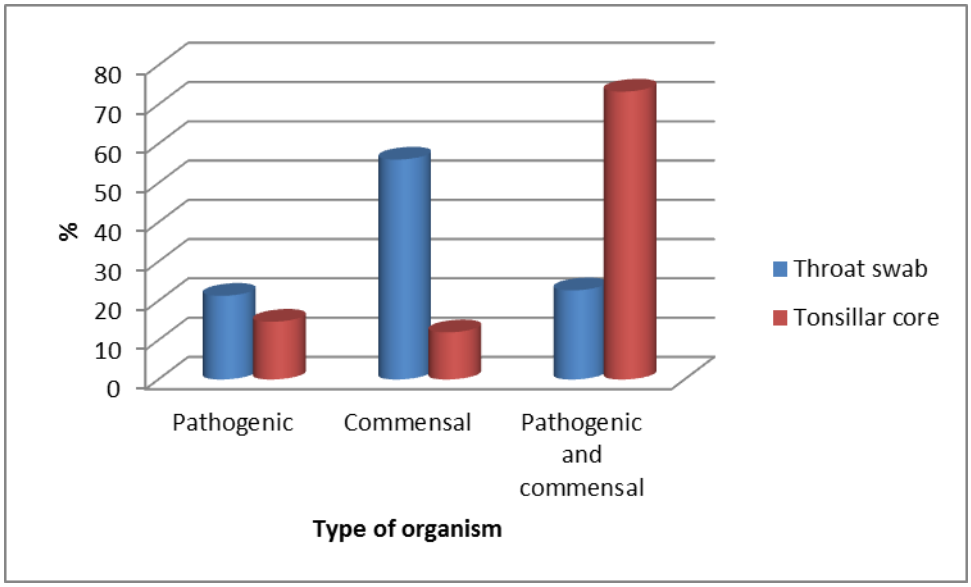


Figure (15): : Comparison between throat swab and tonsillar core cultures results as regards type of organisms detected.

This table shows comparison between throat swab cultures and tonsillar core cultures results as regards type of organisms detected. It revealed that 16 cases(21.3%) of throat swab had pathogenic organisms only, versus 11 cases (14.7%) in tonsillar core had only pathogenic organisms.

It also showed that the number of cases yielding commensal organisms only in throat swab cultures was 42 cases (56%) versus 9 cases (12%) in tonsillar core cultures.

The number of cases yielding pathogenic and commensal organisms together in throat swab cultures was 17 cases (22.7%) versus 55 cases (73.3%) in tonsillar core cultures.

The difference between throat swab and core cultures results was statistically significant.