Results

Description of the studied sample

Forty cases were included in this study with TT insertion for treatment of SOM. They were 22 males (55%) and 18 female (45%). Their ages were ranging from 5-13 years with mean of 9.2 ± 2.19 years as shown in table (5) and figure (10).

Table {5): Age and sex distribution of the study group

Variable		No. (N=40)	% (100.0)
Gender	male	22	55.0
	female	18	45.0
Age (years)	Mean ±SD	Min.	Max.
	9.2 ± 2.19	5	13

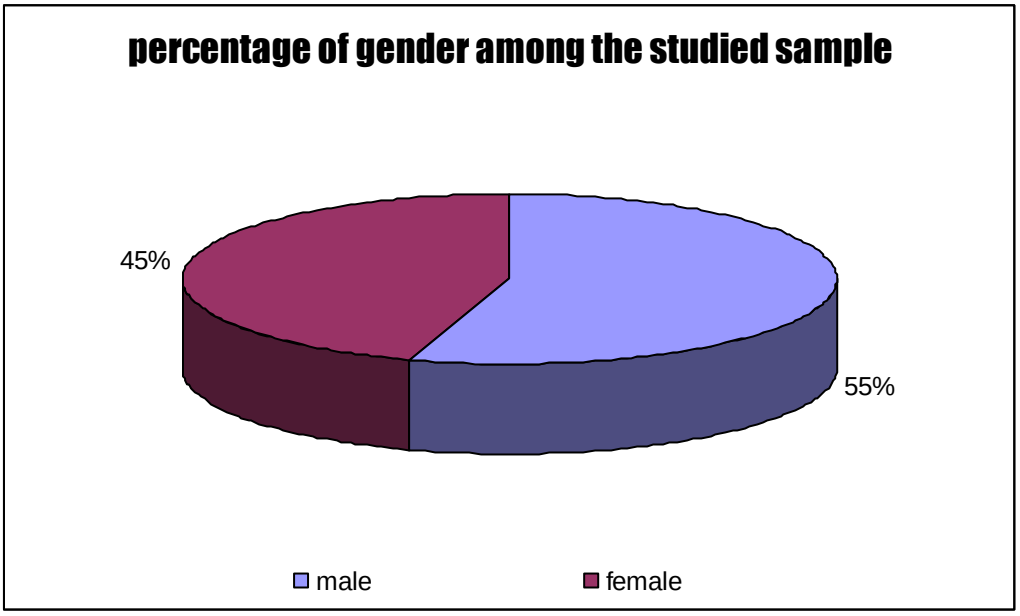

Figure (10): Sex distribution

Table {6}: Prevalence of PTTO

Variable		No. (N=40)	% (100.0)
Prevalence	No PTTO	24	60.0
	PTTO	16	40.0

Table (6) : shows that patients having PTTO are 16 (40%) and patient not developed PTTO are 24 (60%) and this is shown in Fig.(11).

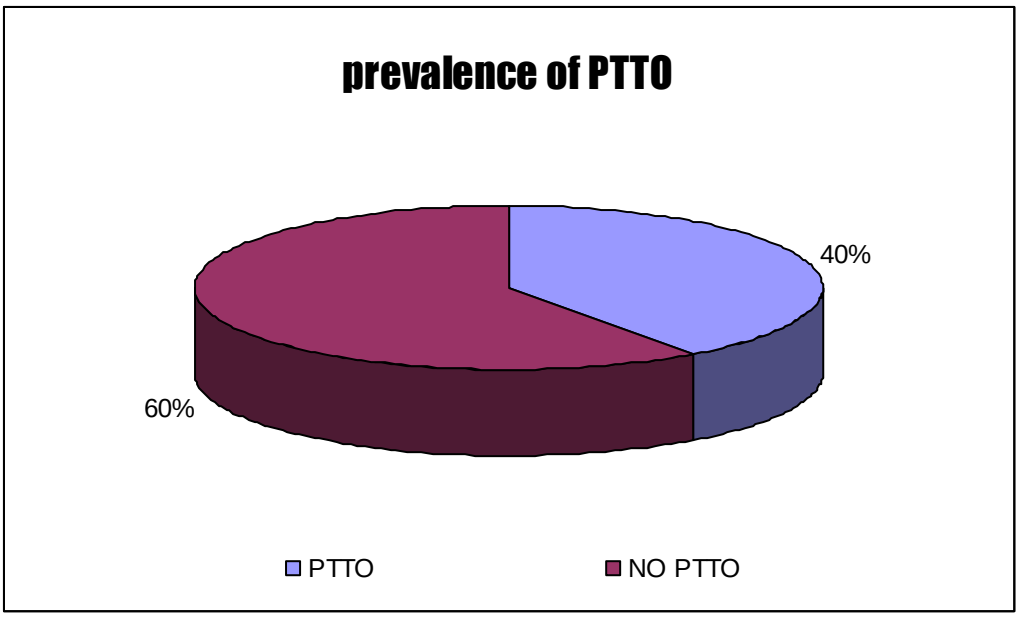

Figure (11): Prevalence of PTTO

Table (7) Comparing both groups regarding gender

			group		
			group I (no PTTO)	group II (PTTO)	Total
gender	male	Count	14	8	22
		% within group	58.3%	50.0%	55.0%
	female	Count	10	8	18
		% within group	41.7%	50.0%	45.0%
Total		Count	24	16	40
		% within group	100.0%	100.0%	100.0%

X^2 = 0.27 **P=0.6**

Table (7) : shows sex distribution of both the study groups. It shows that group 1 includes 14 males (58.3%) and 10 females (41.7%) and group 2 includes 8 males (50%) and 8 females (50%). The correlation between sex and PTTO was statistically insignificant (p value > 0.05) and this is shown in figure (12).

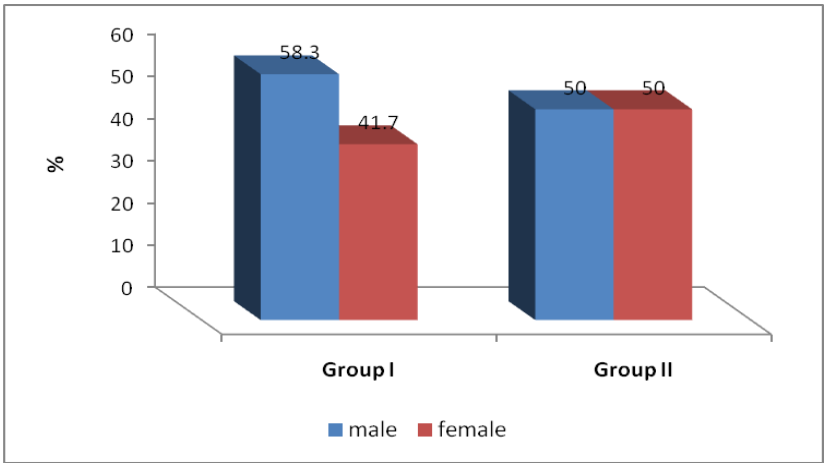

Figure (12): Sex distribution of the two groups

Table (8) Comparing both groups regarding age

Group	Age			St. "t"	P
	N	Mean	Std. Deviation		
group I (no PTTO)	24	9.29	2.19	0.32	0.75
group II (PTTO)	16	9.06	2.26		

Table (8) : Comparing both groups regarding age. There were 24 patient in group 1 and the mean is 9.29 and std.deviation is 2.19. the group 2 includes 16 patients and the mean is 9.06 and the std.deviation is 2.26. The age was statistically insignificant (p value > 0.05).

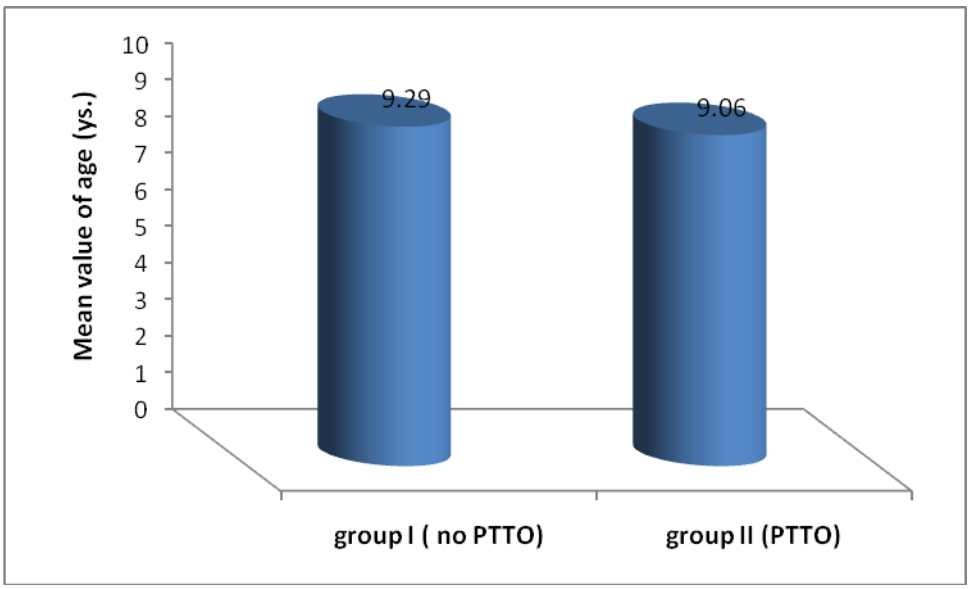

Figure (13) : Age distribution of the two groups

Table (9) : Description of group II according to response to topical drops

Variable		No. (N=16)	% (100.0)	Z	P
Response to topical drops	Non respondents (IIb)	12	75.0	2.31	0.02*
	Respondents (IIa)	4	25.0		

Table (9) : shows that only 4 patients (25%) from group 2 respond to treatment with ear drops while 12 patients (75%) are not responding. This is shown in figure (14).

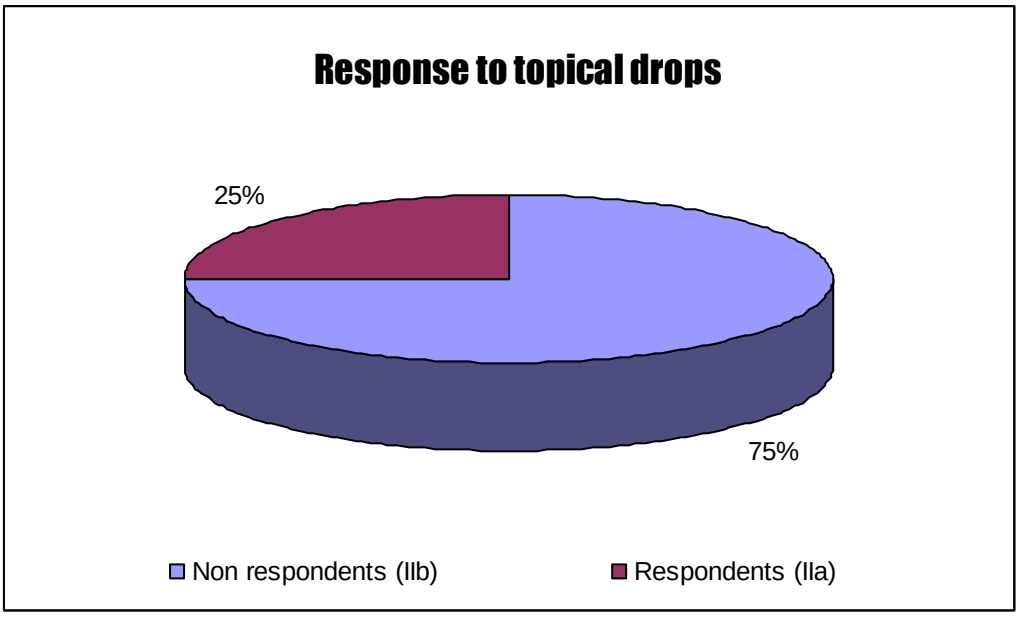

Figure (14) : Group 2 patients response to topical ear drops

Table (10) Comparing the studied groups according to gender and response to ear drops

			Response to ear drops		
			group IIa	group IIb	Total
gender	male	Count	2	6	8
		% within response to ear drops	50.0%	50.0%	50.0%
	female	Count	2	6	8
		% within response to ear drops	50.0%	50.0%	50.0%
Total		Count	4	12	16
		% within response to ear drops	100.05	100.0%	100.0%

X^2 = 0.0 **P= 1.0**

Table (10) : shows that patients respond to ear drops are 4 patient (2 males and 2 females) and patients not responding to ear drops are 12 patients (6 males and 6 females). The correlation between sex and response to treatment was statistically insignificant (p value > 0.05).

Table (11) : Comparing the studied groups according to age and response to drops

Group	Age			St. "t"	P
	N	Mean	Std. Deviation		
group IIa	4	10.25	1.7	1.23	0.24
group IIb	12	8.66	2.3		

Table (11) : Comparing the studied groups according to response to drops and age. There were 4 patients respond to ear drops their ages ranging from 8-12 with mean of 10.25 and std.deviation 1.7 and there is 12 patients not responding their ages ranging from 5-13 with mean of 8.66 and std.deviation 2.3. The correlation between age and response to treatment was statistically insignificant (p value > 0.05).

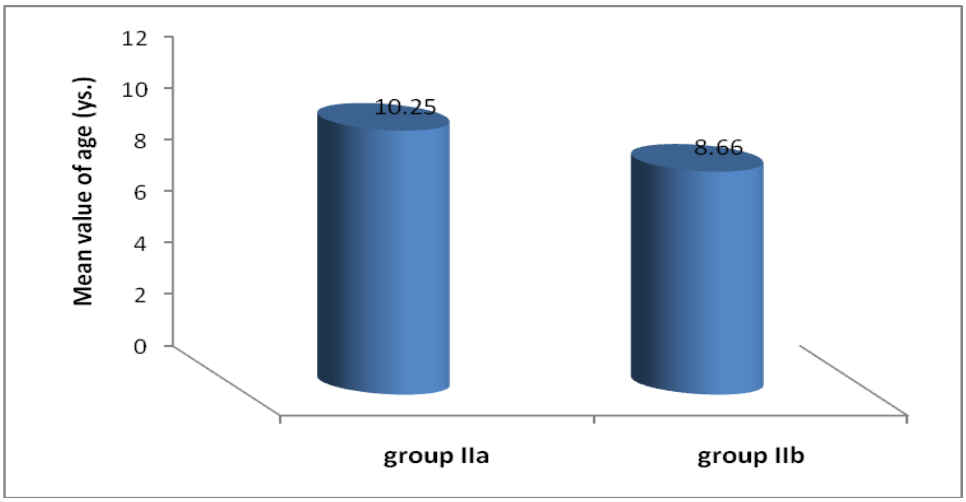

Figure (15) : Age distribution of group 2a and group 2b

Table (12) : Distribution of group IIb according to type of organism.

Variable		No. (N=12)	% (100.0)	Goodness of fit test	P
Organism	S. aureus	5	41.67	6.0	0.11
	P.aeurginosa	4	33.3		
	Mixed bacterial and fungal infection	2	16.67		
	Candida albican	1	8.33		

Table (12) : shows Distribution of group IIb according to type of organism. There were 5 patients (41.7%) shows S. aureus infection , 4 patients (33.3%) shows P.aeurginosa , 2 patients (16.7%) shows Mixed bacterial and fungal infection and 1 patient (8.3%) shows Candida albicans.

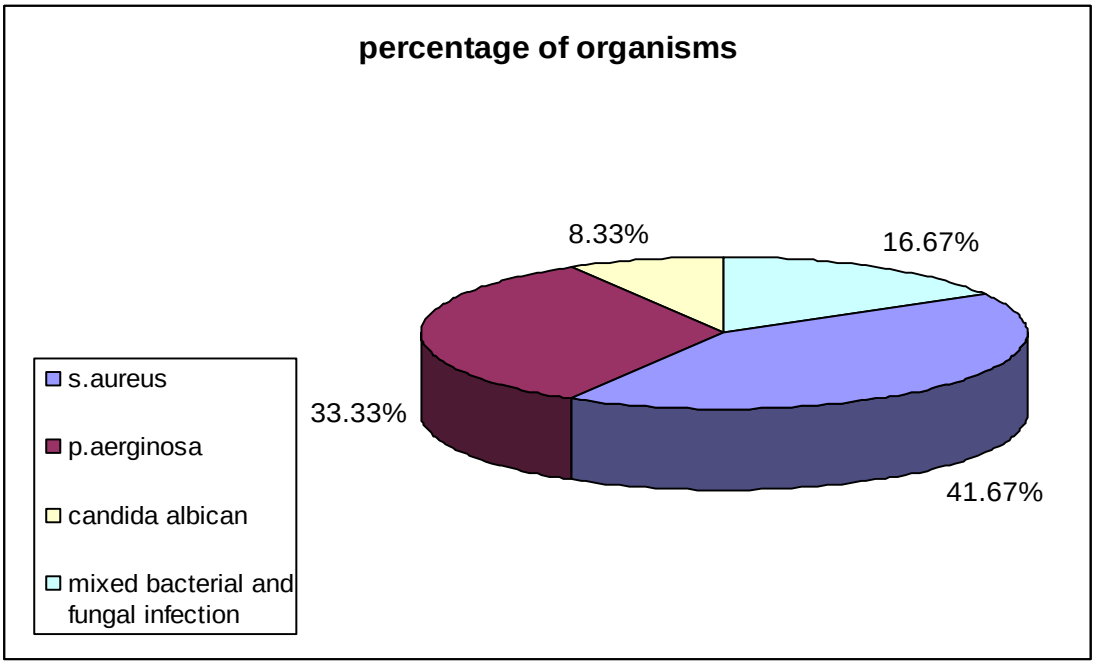

Figure (16) : Results of the biofilm examination

Table (13) Microorganisms isolated from ear discharge and semiquantitative tube culture

Case number	Microorganisms isolated from ear discharge	Microorganisms isolated from semiquantitative tube culture
7	Staphylococcus aureus	Staphylococcus aureus
8	Pseudomonas aeuroginosa	Pseudomonas aeuroginosa
9	Staphylococcus aureus	Staphylococcus aureus
12	Mixed infection	Staphylococcus aureus
13	Pseudomonas aeuroginosa	Pseudomonas aeuroginosa
15	Staphylococcus aureus	Staphylococcus aureus
18	Candida albicans	-ve
22	Pseudomonas aeuroginosa	Pseudomonas aeuroginosa
27	Mixed infection	-ve
31	Pseudomonas aeuroginosa	Pseudomonas aeuroginosa
33	Staphylococcus aureus	Staphylococcus aureus
38	Staphylococcus aureus	-ve
Total	**12**	**9**

Table (13) shows that the result of ear discharge culture was + ve in 12 patients while the semiquantitive tube culture was + ve only in 9 patients.

Table (14) Antibiotic susceptibility of the isolated strains

organism	Case no.	AZ	CIP	AM	GN	MET	TE	VA	N	flu
Staphylococcus aureus	7	***S***	***R***	***R***	***R***	***R***	***R***	***S***	***R***	***R***
	9	***R***	***R***	***R***	***R***	***R***	***S***	***R***	***R***	***R***
	15	***R***	***R***	***R***	***R***	***R***	***R***	***S***	***R***	***R***
	33	***R***	***R***	***R***	***R***	***R***	***S***	***S***	***S***	***R***
	38	***R***	***R***	***R***	***R***	***R***	***R***	***S***	***R***	***R***
Pseudomonas	8	***R***	***R***	***S***	***S***	***R***	***S***	***S***	***S***	***R***
	13	***R***	***R***	***S***	***S***	***R***	***S***	***R***	***S***	***R***
	22	***S***	***R***	***S***	***S***	***R***	***S***	***R***	***R***	***R***
	31	***R***	***R***	***S***	***S***	***R***	***S***	***S***	***S***	***R***
Candida albican	18	***R***	***R***	***R***	***R***	***R***	***R***	***R***	***R***	***S***
Mixed bacterial and fungal	12	***R***	***R***	***R***	***R***	***R***	***R***	***R***	***S***	***S***
	27	***S***	***S***	***R***	***R***	***R***	***R***	***S***	***R***	***S***

(AZ, Azithromycin; CIP, Ciprofloxacin; AM, Amikain; GN, Gentamycin; MET, Methicillin; TE,Tetracycline; VA,Vancomycin;N, Neomycin; FLU, Fluconazole; R, Resistant; S, Susceptible)

Table (15) Relationship between direct tube staining with acridine orange stains and results obtained with the semiquantitative tube culture

Acridine orange stain	Tube culture + ve	-ve	total	Sensitivity (%)	Specificity (%)
+ ve	7	1	8	77.8	**66.7**
- ve	2	2	4		
total	9	3	12		

Table (15) : shows the sensitivity and specificity of acridine orange staining of TT in relation to the semiquantitative tube culture.

Table (16) Results of Congo red agar &Tube method

	positive	negative	Total
Congo red agar	5	0	5
Tube method	4	1	5

Table (16) : shows that variation was only in one strain which gave positive result with congo red and negative by the tube method.

Table (17) Degree of agreement between the used method

		Congo red agar		Total	Kappa	The strength of agreement
		+ve	**-ve**			
Tube method	**+ve**	4	0	**4**	-------	**80%**
	-ve	1	0	**1**		
Total		**5**	**0**	**5**		

Kappa significance could not be calculated as there is a fixed values in the second column

Table (17) : shows that the strength of agreement between the tube method and the congo agar method is 80%.