Results

Cases in this study were classified into 2 groups according to operative procedure. Group A included 11 cases (50%) with Eustachian tuboplasty and myringotomy and group B included 11 cases (50%) with tuboplasty and stenting. (Table 1)

(Table 1), Distribution of studied groups as regards surgical procedure and number of cases)

Group / Procedure	A	B	Total
	Tuboplasty + myringotomy	Tuboplasty and stenting	----
Number	11	11	22
%	50%	50%	100%

Table (2) Distribution of the study groups according to sex.

Sex / Study group	Males		Females		Total	
	No	%	No	%	No	%
Group A	6	54.6	5	45.4	11	100
Group B	7	63.6	4	36.4	11	100
Total	13	59.1	9	40.9	22	100

According to table (3) Group A included 6 males and 5 females while group B included 7 males and 4 females

Table (3) Mean ± SD of ages of the study groups.

Age / Study group	X ± SD	t.	P
Group A	25.7 ± 9.2	0.06	> 0.05
Group B	25.9 ± 7.5		

X= Mean SD = standard deviation.

According to table (3) age ranged in this study from 15 to 39 with the mean age 25.7 for group A and 25.9 for group B.

Table (4) Distribution of the main complaint among the study groups.

Study group / Complaints	Group A		Group B		Total	
	No	%	No	%	No	%
Tinnitus	8	50 %	8	50%	16	100%
↓Hearing	3	50%	3	50%	6	100%
Total	11	50%	11	50%	22	100%

According to table (4) Patients' main complaint was tinnitus in 8 cases of group A and 8 cases of group B while the other 3 cases of each group complained mainly of decreased hearing.

Table (5):- Distribution of studied groups as regards the side of the lesion.

Study group / Side	Group A		Group B		Total	
	No	%	No	%	No	%
Unilateral	5	62.5	3	37.5	8	100 %
Bilateral	6	42.9	8	57.1	14	100%
Total	11	50%	11	50%	22	100%

$X^2 = 0.19$ $P > 0.05$

According to table (5) there were 8 cases with unilateral Eustachian tube dysfunction and 14 cases with bilateral Eustachian tube dysfunction.

Group A included 5 cases with unilateral Eustachian dysfunction and 6 cases with bilateral Eustachian dysfunction, while group B included 3 cases with unilateral Eustachian dysfunction and 8 cases with bilateral Eustachian dysfunction.

In group (A):- there were 6 cases with tuboplasty and myringotomy done in one ear and ventilation tube in the other

ear; the other 5 unilateral cases were managed by tuboplasty and myringotomy only.

In group (B):- there were 8 bilateral cases with tuboplasty and Eustachian tube stenting in one ear and ventilation tube in the other ear, while the other 3 unilateral cases the only affected ear was managed by tuboplasty and Eustachian tube stenting.

Table (6) Tympanometry results of group A preoperatively, 3and 6 months postoperatively.

Tympanometry / Case No.	Preoperative		After 3 months		After 6 months	
	Tympanometry Type	ME pressure	Tympanometry Type	ME pressure	Tympanometry Type	ME pressure
Case 1	C	-320	A	+20	B	--
Case 2	C	-240	A	-40	A	-40
Case 3	C	-300	A	-44	A	-36
Case 4	C	-325	A	-10	A	0
Case 5	C	-200	A	-50	B	--
Case 6	C	-310	A	-20	B	--
Case 7	C	-210	A	-100	A	-30
Case 8	C	-320	A	+10	B	--
Case 9	C	-400	A	+30	B	--
Case 10	C	-250	A	-40	B	--
Case 11	C	-180	A	-60	A	-20

Table (6) shows that 3 months postoperatively all cases of group (A) showed type A tympanometry, these cases showed marked improvement of their symptoms. While after 6 months 5 cases showed type A tympanometry with improved ME pressure and improved symptoms, success rate 45.5%. and 6 cases of group A showed type B tympanometry with flat curve with failure rate 54.5%.

Table (7) Means ± SD of middle ear pressure preoperative and 3 months postoperatively among group A.

ME pressure / Time	X ± SD	X ± SD of difference	SE	Paired t	P
Preoperative (n = 11)	-277.7 ± 66.8	250.1± 101.7	30.6	8.16	< 0.001
After 3 months (n = 11)	-27.6 ± 38.4				

X = mean , SD= standard deviation, SE= statistical error.

This table shows that there was significant difference between middle ear pressures after 3 months among group A.

Table (8) means ± SD of middle ear pressure preoperative and 6 months postoperative of improved cases among group A.

ME pressure / Time	X ± SD	X ± SD of difference	SE	Paired t	P
Preoperative (n = 5)	-251 ± 60.7	-225.8 ± 67.8	30.27	7.46	< 0.001
After 3 months (n = 5)	-25.2 ± 15.97				

X = mean , SD= standard deviation, SE= statistical error.

This table shows that there was a significant difference between middle ear pressures of improved cases among group A.

Table (9) Tympanometry results of group B preoperatively, 3and 6 months postoperatively.

Tympanometry / Case No.	Preoperative		After 3 months		After 6 months	
	Tympanometry Type	ME pressure	Tympanometry Type	ME pressure	Tympanometry Type	ME pressure
Case 1	C	-400	A	-100	A	0
Case 2	C	-300	C	-200	C	-300
Case 3	C	-200	C	-250	A	+50
Case 4	C	-400	B	--	B	--
Case 5	C	-350	B	--	B	--
Case 6	C	-150	A	-50	A	0
Case 7	C	-250	A	-100	A	0
Case 8	C	-250	A	-100	A	-50
Case 9	C	-300	A	-100	A	0
Case 10	C	-200	A	-50	A	0
Case 11	C	-400	A	-100	A	0

Table 9 shows that 3 months postoperatively 6 cases of group B showed type A tympanometry, these cases showed marked improvement of their symptoms.

In cases 4 and 5 the stent was extruded spontaneously during the 1st month and their tympanometry at 3 months postoperatively showed type B tympanometry. Although adhesions were released and crustations were suctioned from the

tubal orifice their tympanometry after 6 months was still of type B.

In cases 2 and 3 of group B the stent was extruded spontaneously during the 2nd month and their tympanometry at 3 months was of type C, adhesions were removed and crustations were suctioned, at 6 months follow up case number 3 showed type A tympanometry while case number 2 showed type C tympanometry.

After 6 months 8 cases showed type A tympanometry with improved ME pressure and improved symptoms, 2 cases with type B tympanometry and one case with type C.

Table (10) Means ± SD of middle ear pressure preoperatively and 3 months postoperatively among group B.

ME pressure / Time	X ± SD	X ± SD of difference	SE	Paired t	P
Preoperative (n = 9)	-272.3 ± 87	-155.6 ± 95.01	31.7	4.91	< 0.001
After 3 months (n = 9)	-116.7 ± 55.9				

X = mean , SD= standard deviation, SE= statistical error.

This table shows significant difference between middle ear pressures of 9 cases among group B after 3 months.

Table (11) Means ± SD of middle ear pressure preoperatively and 6 months postoperatively among group B.

ME pressure / Time	X ± SD	X ± SD of difference	SE	Paired t	P
Preoperative (n = 8)	-272.3 ± 87	-239 ± 124.4	41.5	5.76	< 0.001
After 6 months (n = 8)	-33.3 ± 103.1				

X = mean , SD= standard deviation, SE= statistical error.

This table shows significant difference between middle ear pressures of 8 cases among group B after 6 months.

Table (12) Means ± SD of middle ear pressure preoperative and postoperative among the study groups.

Study group / Time	N	Group A X ± SD	N	Group B X ± SD	t.	P
Preoperative	11	-277.7 ± 6.8	11	-290.9±88.9	0.39	> 0.05
After 3 months	11	-27.6 ± 38.4	9	-116.7±55.9	4.06	<0.001
After 6 months	5	-25.2±15.97	8	-33.3 ± 03.1	0.41	> 0.05

This table shows that there was no significant difference between middle ear pressures of improved cases of the 2 groups.