Results

The study were done upon 30 patients of 9 females and 21 males with bilateral otitis media with effusion some of them respond to medical treatment others was prepared for myringotomy with ventilation tubes, patients divided into three groups according to preoperative CT results.

Table (1): Number of patients in each group:

	N	Mean	Std. Deviation	Minimum	Maximum	f	p	Between groups
G1	6	9	1.1	8.00	10.00	0.6	>0.05	P1>0.05
G2	18	8. 7	1.9	7.00	12.00			P2>0.05
G3	6	8	1.1	7.00	9.00			P3>0. 05

This table show non significant difference in age between three groups

P1 () G1 & G2

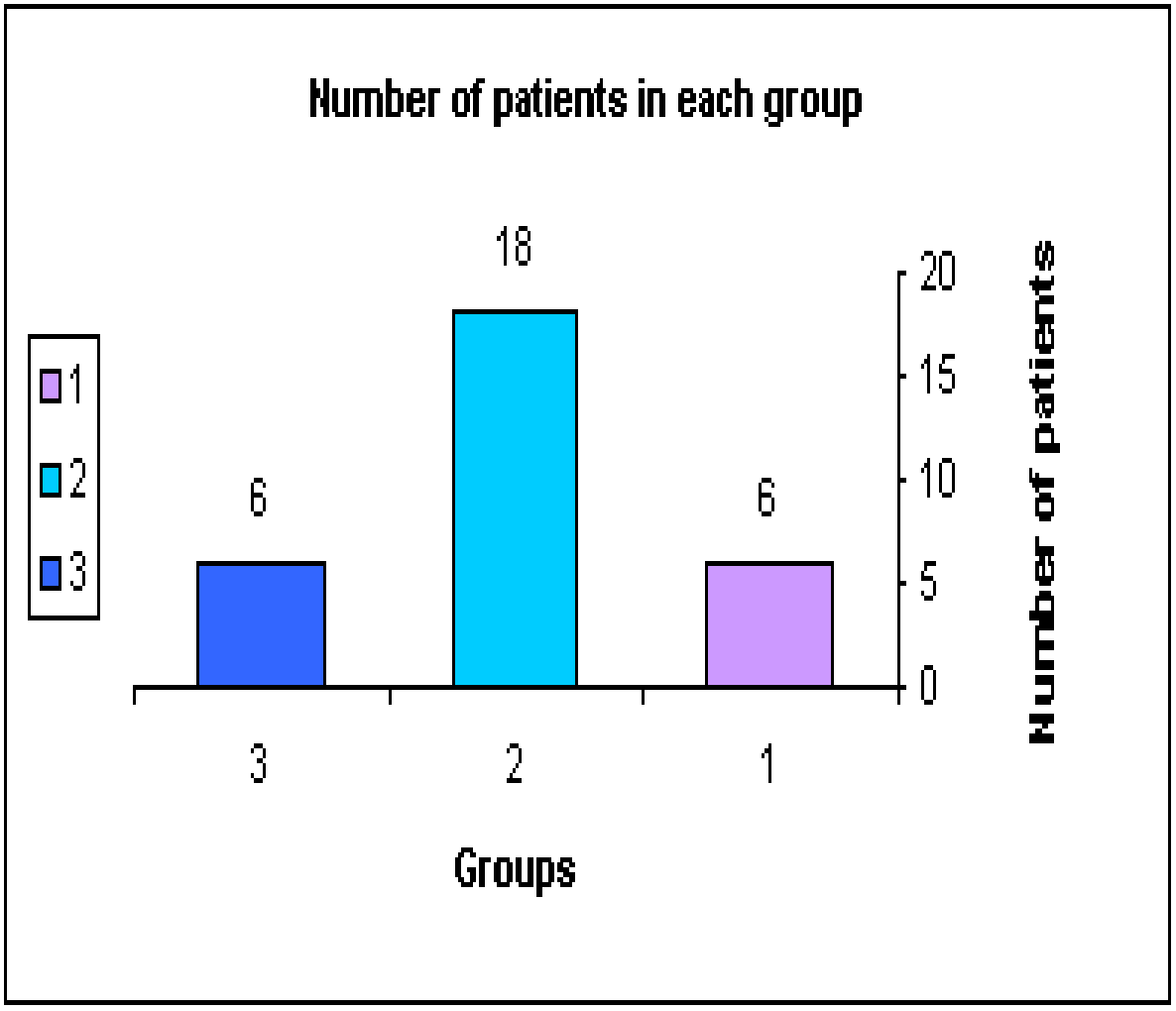
P2 () G1 & G3

P3 () G2 & G3

p>0.05=non significant

p<0.05= significant

P<0.001= highly significant



Fig(9) Number of patients in each group:

Table (2): comparison among three groups as regards sex:

	G1		G2		G3		Total		X^2	p
	No.	%	No.	%	No.	%	No.	%		
Female	2	33.3%	9	50.0%	3	50.0%	9	30.0%	0.5	>0.05
Male	4	66.7%	9	50.0%	3	50.0%	21	70.0%		
Total	6	100.0%	18	100.0%	6	100.0%	30	100.0%		

This table show non significant difference in sex between three groups

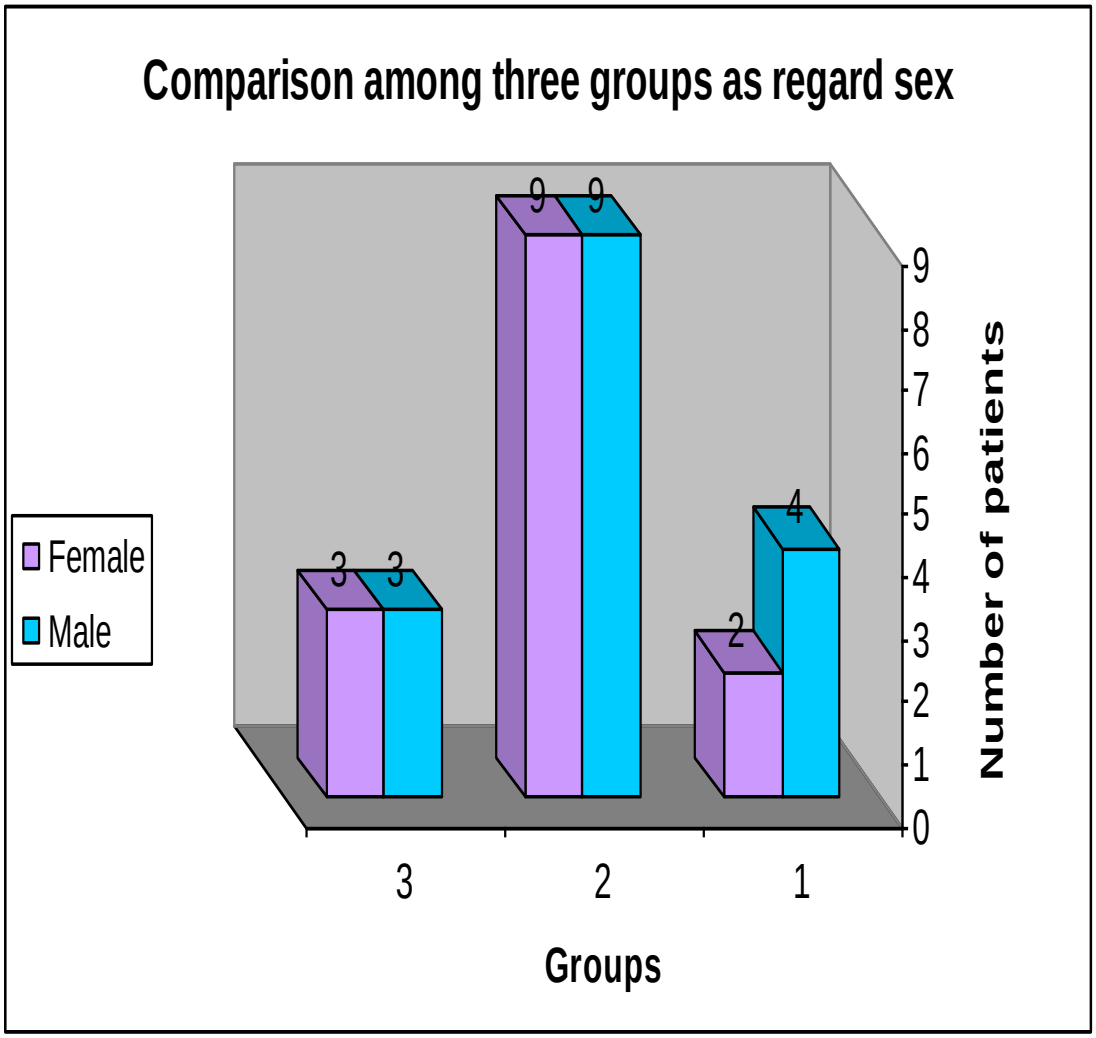


Fig (10): comparison among three groups as regard sex:

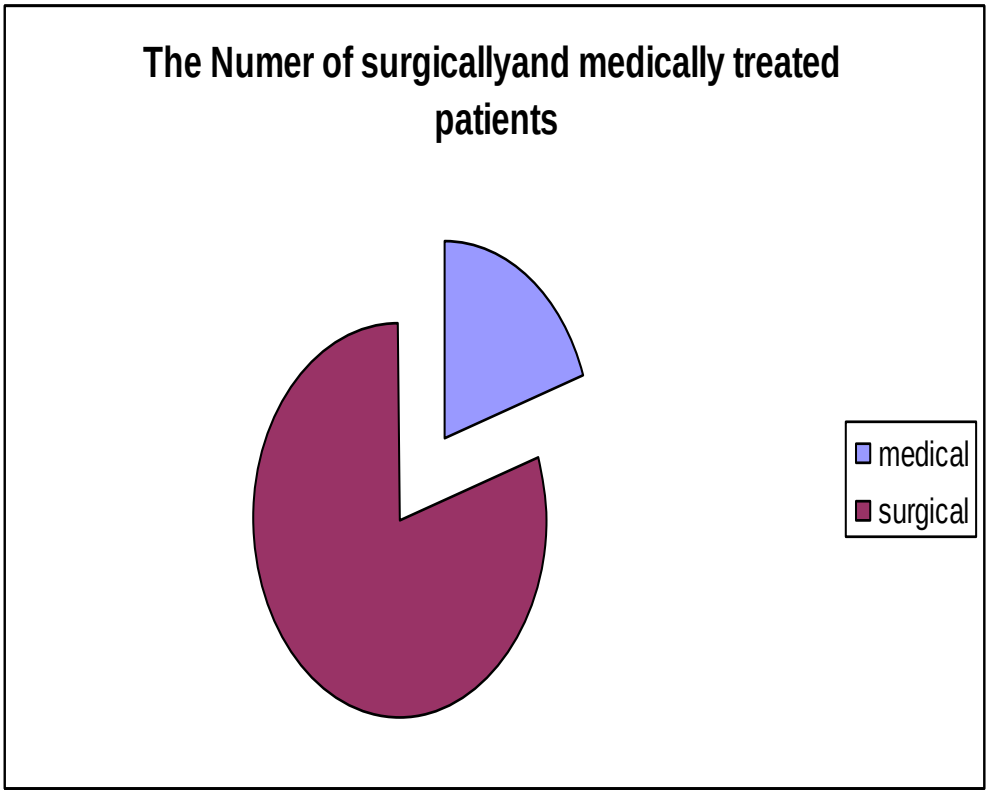


Fig (11) show percent of medically and surgically treated patients

Table (3): comparison among three groups as regard Complaint duration:

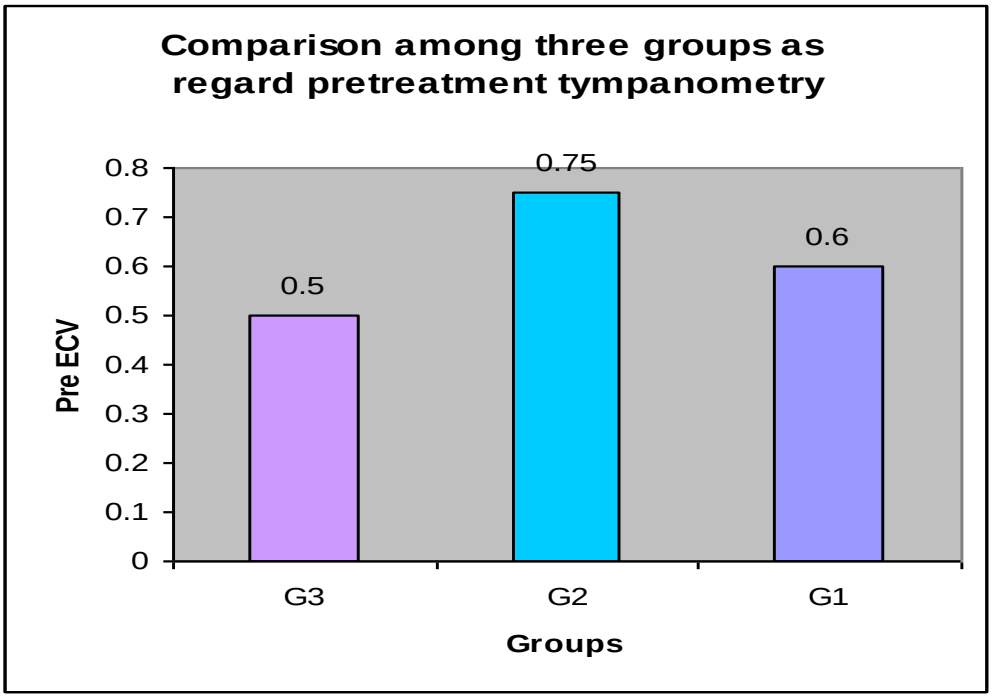
		N	Mean	Std. Deviation	Minimum	Maximum	f	p	Between groups
Complaint duration	G1	6	0.8	0.26	0.50	1.00	2.9	>0.05	P1>0.05
	G2	18	1.3	0.49	1.00	2.00			P2>0.05
	G3	6	1.3	0.52	1.00	2.00			P3>0.05

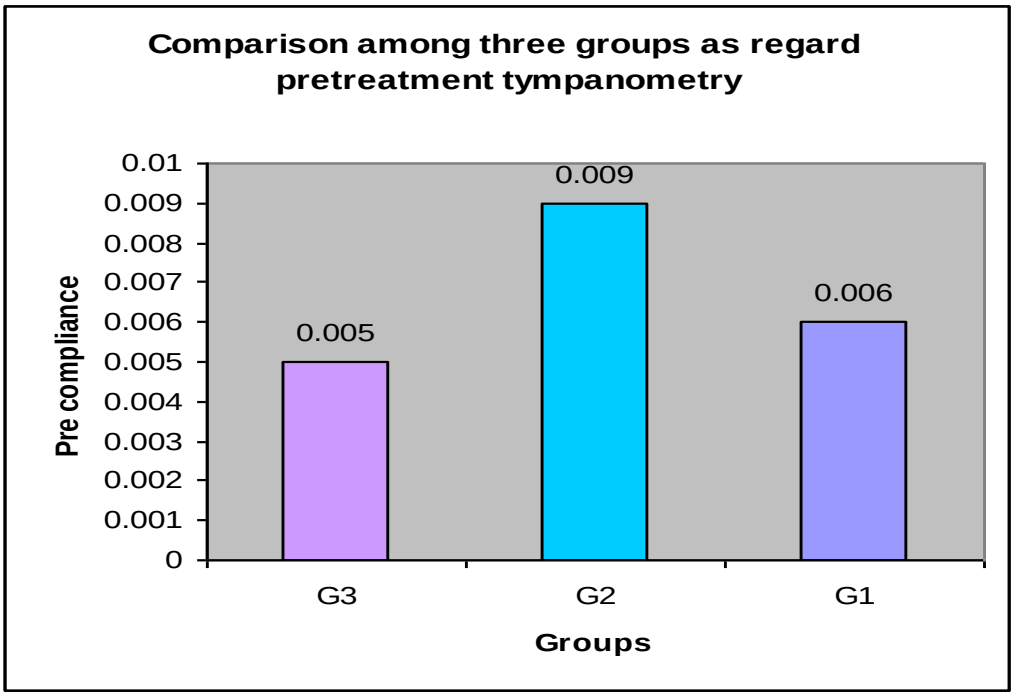
This table show no significant difference among three groups as regard complaint duration

Table (4): comparison among three groups as regard Pretreatment tympanometry

		N	Mean	Std. Deviation	Minimum	Maximum	f	p	Between groups
Pre ECV	G1	6	0.6	0.06	0.60	0.70	10.8	<0.001	P1<0.05
	G2	18	0.75	0.13	0.50	0.90			P2>0.05
	G3	6	0.5	0.05	0.50	0.60			P3<0.05
Pre compliance	G1	0.07	0.006	0.07	.06	.08	6.3	<0.001	P1>0.05
	G2	0.06	0.009	0.06	.05	.08			P2>0.05
	G3	0.05	0.005	0.05	.05	.06			P3>0.05

This table show significant difference between three groups as regard pretreatment tympanometric results (ECV, compliance).





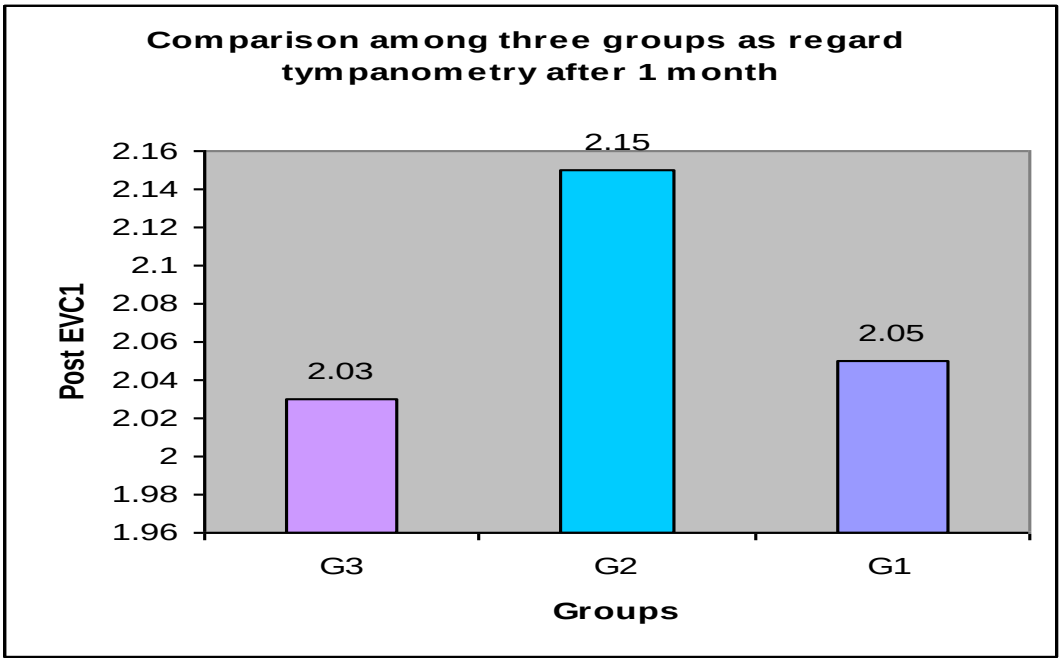
Fig(12) show comparison among three groups as regard pretreatment tympanometry

Table (5): **comparison among three groups as regard tympanometry after 1 month of treatment.**

		N	Mean	Std. Deviation	Minimum	Maximum	f	p	Between groups
Post EVC1	G1	6	2.05	0.08	2.00	2.20	3.5	<0.05	P1>0.05
	G2	18	2.15	0.13	2.00	2.40			P2>0.05
	G3	6	2.03	0.05	2.00	2.10			P3<0.05
Post compliance 1	G1	6	0.065	0.008	0.06	0.08	1.1	>0.05	P1>0.05
	G2	18	0.065	0.008	0.06	0.08			P2>0.05
	G3	6	0.07	0.006	0.06	0.08			P3>0.05

This table show significant difference between group III and group II as regard tympanometric value after 1 month of treatment (ECV1 and compliance after 1month of treatment)

ECV1=ECV after 1 month
Compliance1=compliance after 1month



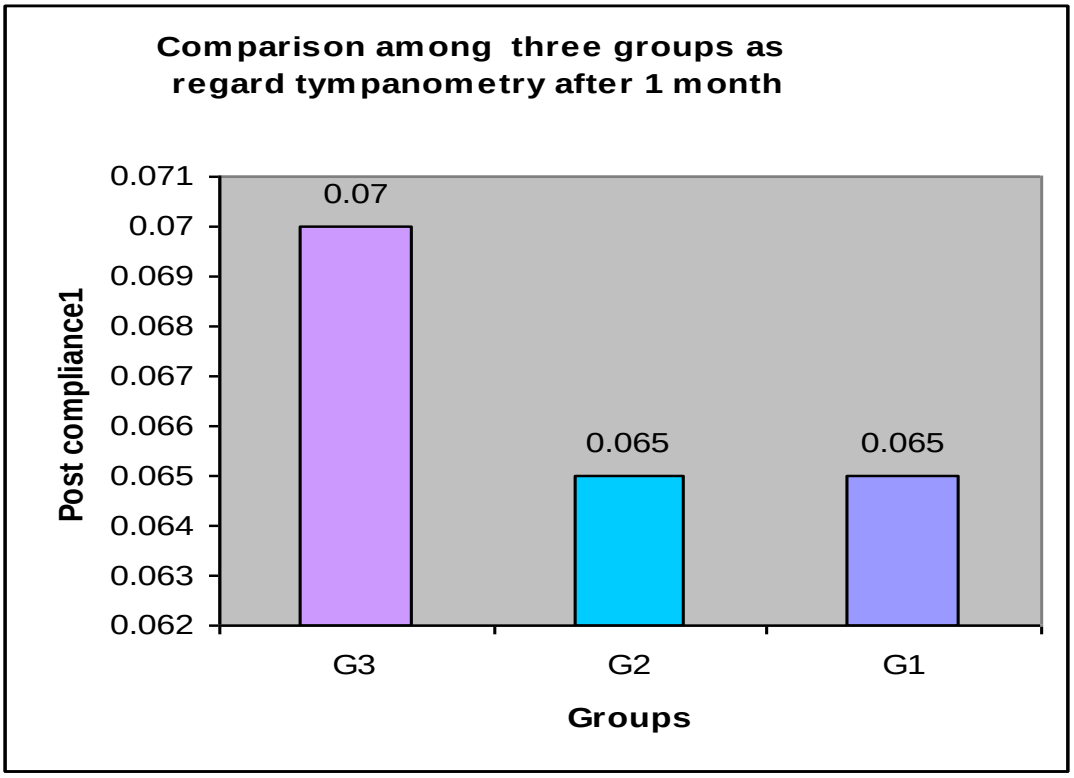


Fig (13) show comparison among three groups as regard tympanometry after 1month

Table (6): **comparison among three groups as regard tympanometry After Extrusion of VT with intact T.M**

		N	Mean	Std. Deviation	Minimum	Maximum	f	p	Between groups
EVC	G1	6	0.6	0.06	0.50	0.70	11.6	<0.001	P1<0.05
	G2	18	0.7500	0.13	0.50	0.90			P2>0.05
	G3	6	0.5167	0.075	0.40	0.60			P3<0.05
compliance	G1	6	0.7500	0.08	0.60	0.80	12.7	<0.001	P1<0.05
	G2	18	0.4889	0.15	0.40	0.80			P2<0.05
	G3	6	0.4167	0.04	0.40	0.50			P3>0.05

This table show significant difference between three groups as regard tympanometric values (ECV and compliance) after extrusion of VT tubes (3-6 months)

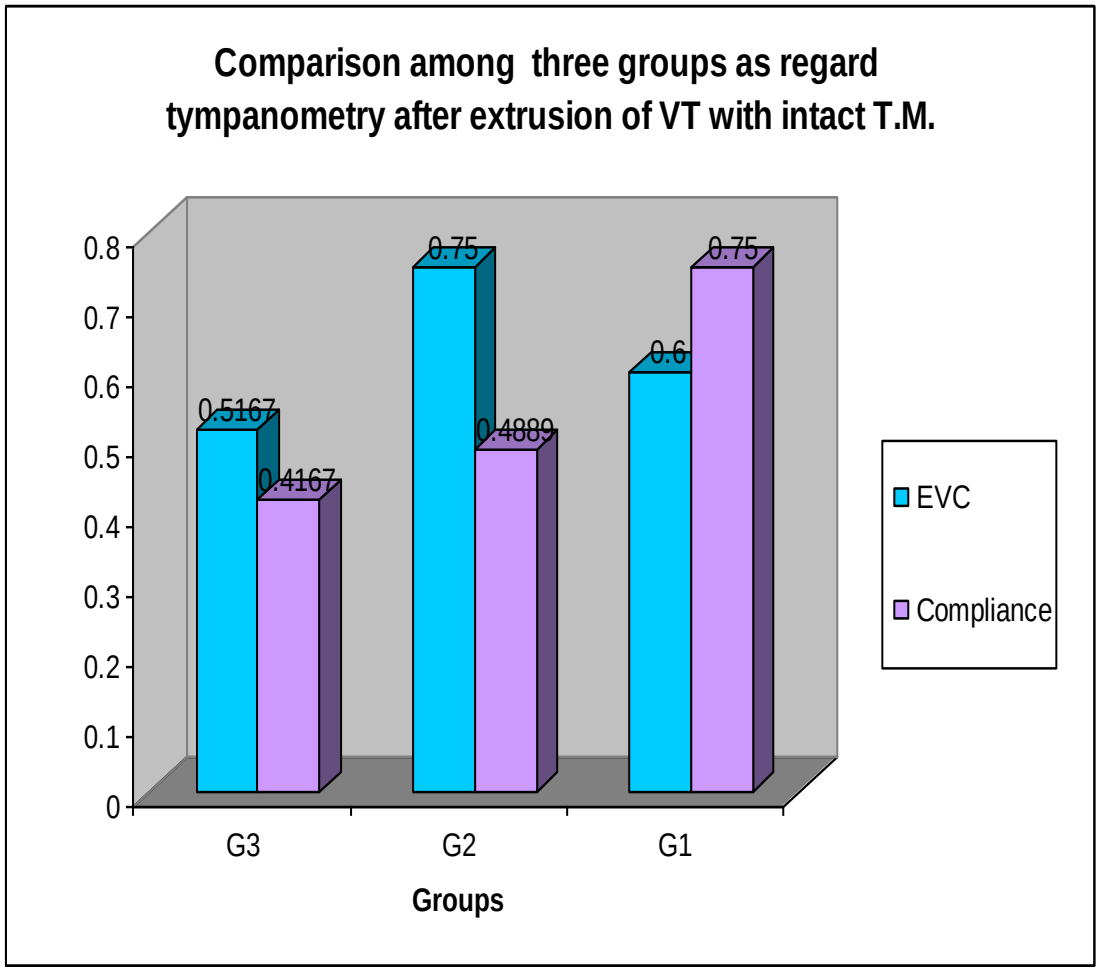


Fig (14**)** show comparison among three groups as regard tympanometry after extrusion of VT with intact TM

Table (7): comparison of pre and post operative finding by CT grouping

	G1		G2		G3		Total		X^2	p
	No.	%	No.	%	No.	%	No.	%		
Pre operative CT	6	20.0 %	18	60.0 %	6	20.0 %	30	100.0 %	9.6	<0.05
Post operative CT	24	80%	6	20.0 %	0	0.0%	30	100.0 %		
Z		4.1		2.7		2.7				
p		<0.05		<0.05		<0.05				

This table show significant difference between CT temporal bone among three groups (pre and post operative).

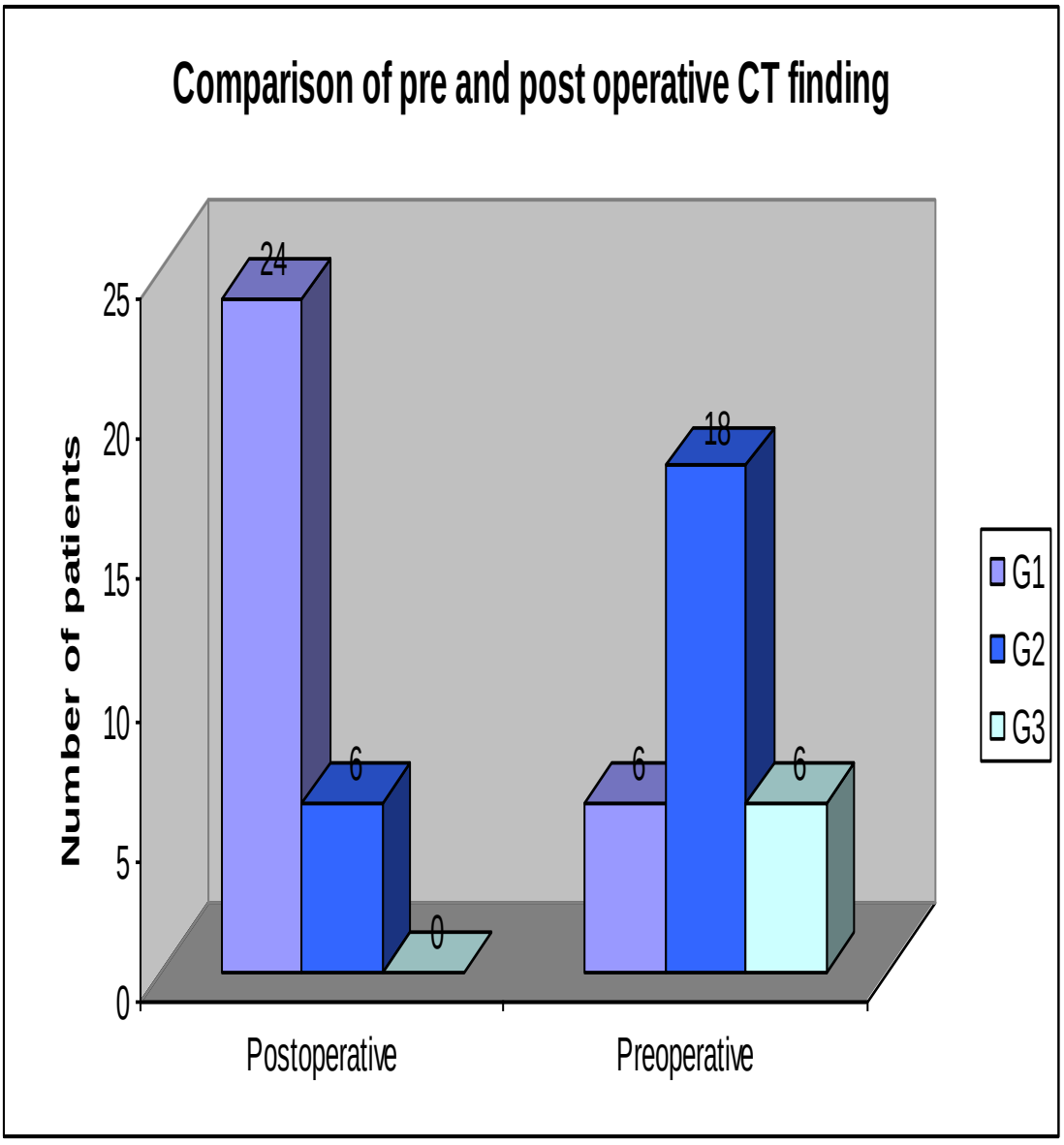


Fig (15) comparison of pre and post operative CT finding

Table (8): comparison of pre and post treatment measures as regard tympanometric values

		Mean	Std. Deviation	Paired t test	p
ECV	pre	0.68	0.14	76.6	<0.001
	EVC1	2.1	0.12		
ECV	pre	0.68	0.14	0.4	>0.05
	EVC3	0.67	0.15		
compliance	pre	0.06	0.009	2.1	<0.05
	post1	0.07	0.008		
compliance	pre	0.06	0.009	15.9	<0.05
	compliance3	0.53	0.168		

Ecv1 (ECV after 1month)
ECV3 (ECV after 3 months)

This table show significant difference between ECV before treatment and after placement of VT (ECV after 1month) but no significant difference between ECV before treatment and after extrusion of VT, however there is significant difference in compliance before and after treatment

The results of this study were presented under the following categories:-

(a) Radiological results**.**

(b)Impedancemetry results.

And we illustrate some examples of patients:

Radiological results:

C.T of the temporal bone, axial view done for all patients and there are some results

Case 1: male patient, 6ys old complaining of hearing loss 2years old ago .

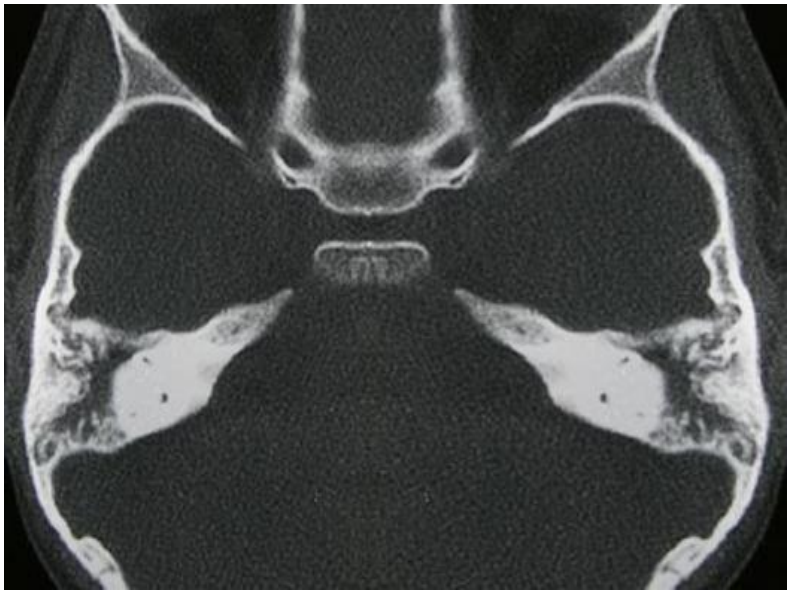


Fig (16)Preoperative axial C.T temporal bone (Group II)

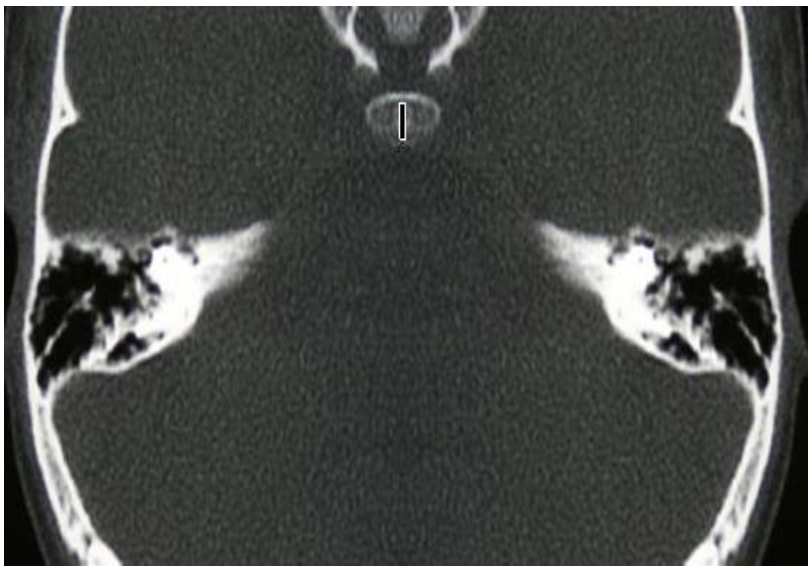


Fig (17) Postoperative axial C.T temporal bone .(Group I)

Case 2: male patient 10 years old, complaining of hearing loss 6months ago

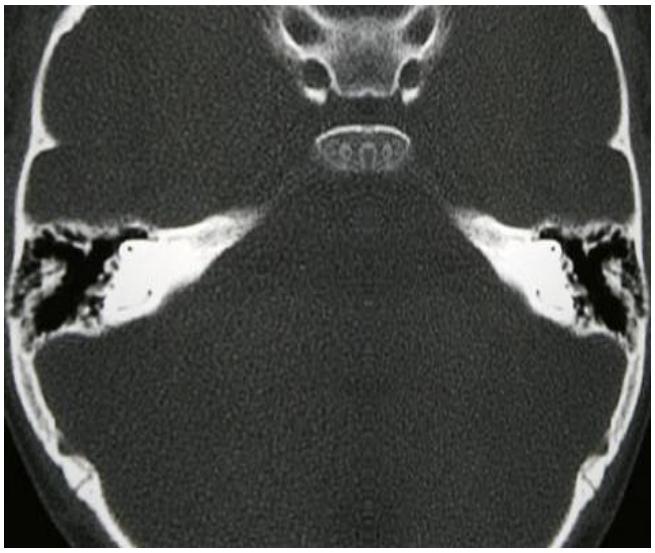


Fig (18) Preoperative axial C.T temporal bone. (Group I)

)

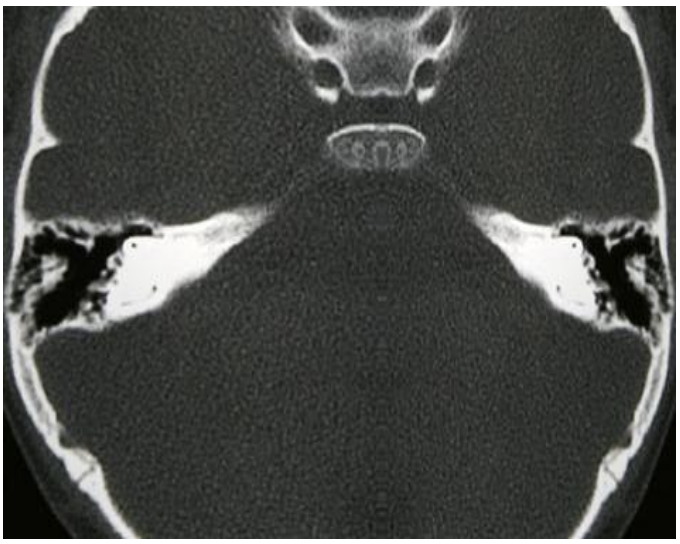


Fig (19) Post operative axial C.T temporal bone. (Group I)

Case 3: male patient 7ys old, complaining of hearing loss 1year ago

Fig (20) Preoperative axial C.T temporal bone (Group III)

Fig (21) Post operative axial C.T temporal bone .(Group II)

Case 4: female patient, 17ys old complaining of hearing loss 1year ago

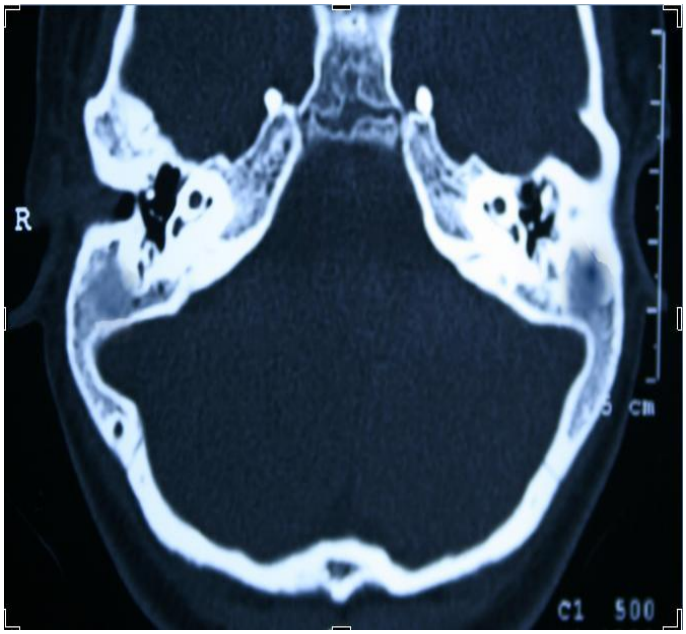


Fig (22) preoperative axial C.T temporal bone (Group II)

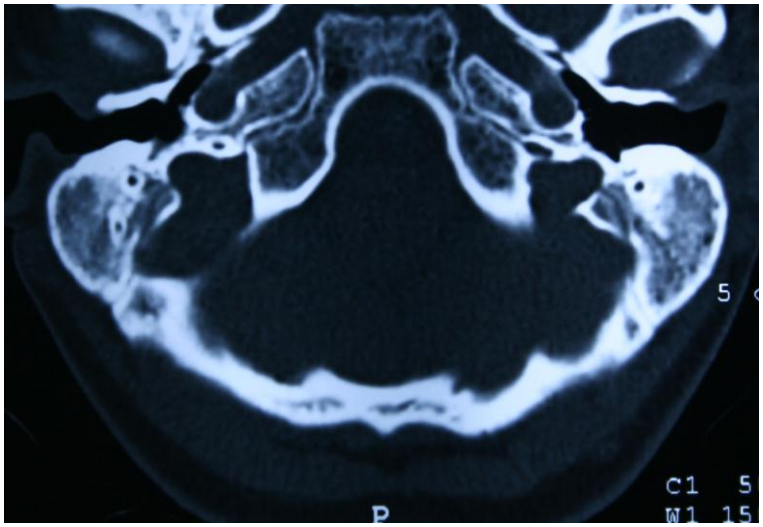


Fig (23) post operative axial C.T temporal bone (Group I)

Tympanometry results

All patients suffered from bilateral OME, and all of them subjected for Tympanometry (after medical treatment, 1 month post operatively, after extrusion of VT with intact TM so we choose the right ear for example:

Case 1: male patient, 6ys old complaining of hearing loss 2years old ago

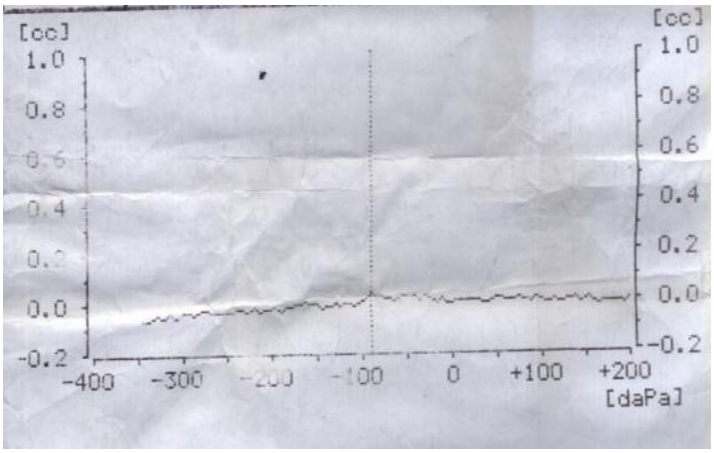


Fig (24) Right Tympanogram (Type B)

ECV: 0.5

Compliance 0.05

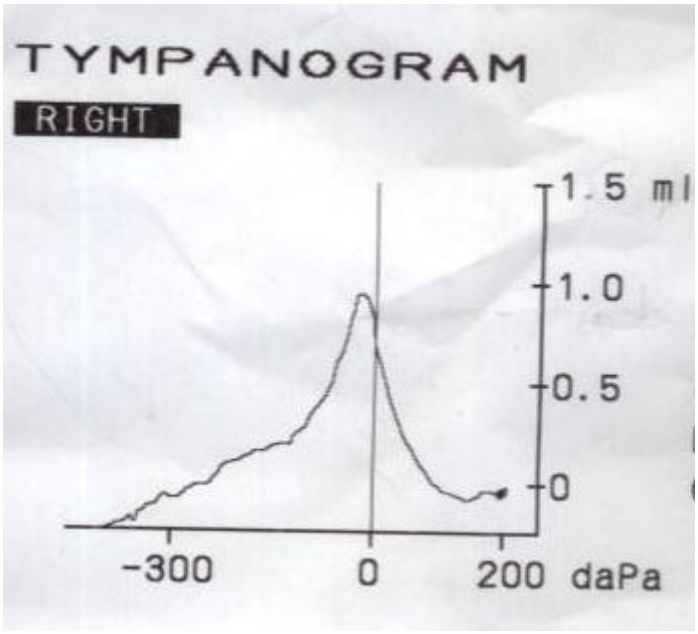


Fig (25) Right Tympanogram (Type A), after extrusion of VT with normal TM

ECV: 0.5

Compliance 0.4

Case 2: male patient 10ys old complaining of hearing loss 6months ago

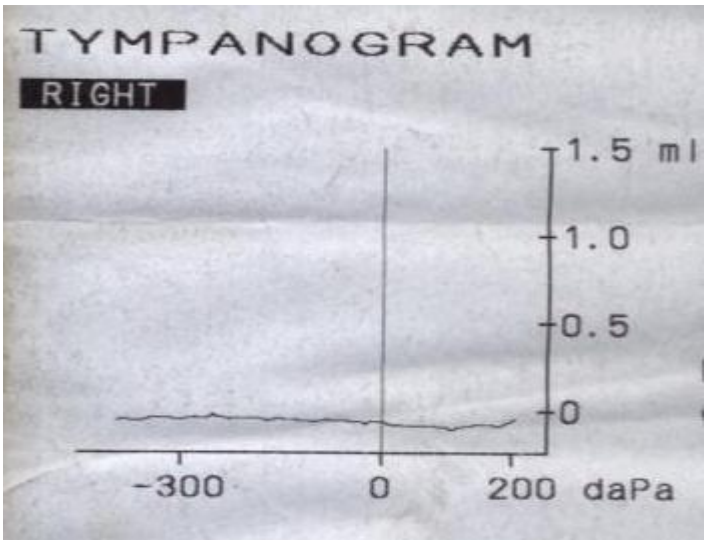


Fig (26) Right Tympanogram (Type B)

ECV: 0.7

Compliance 0.06

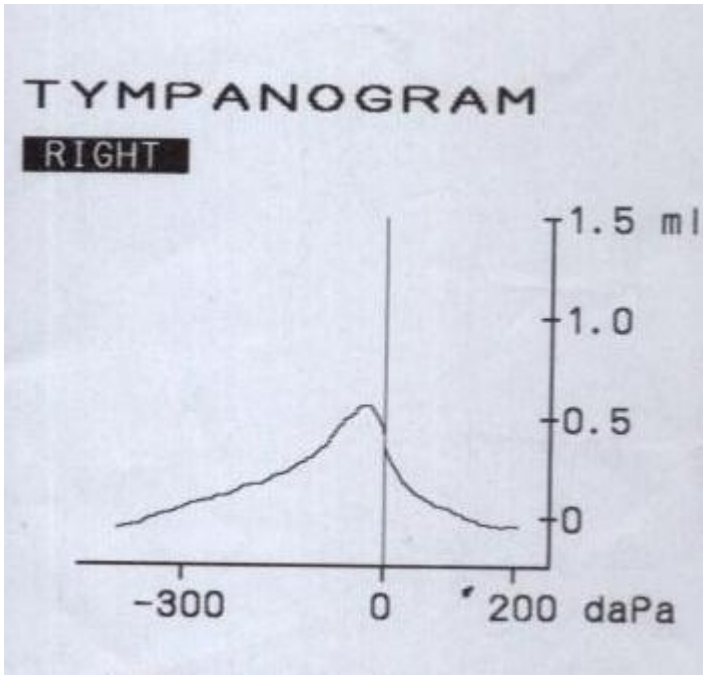
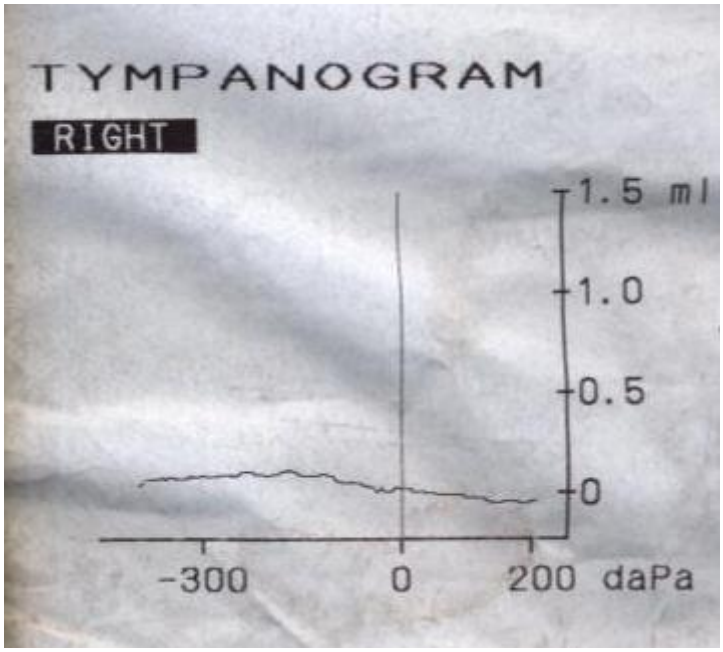


Fig (27) Right Tympanogram (Type A), after extrusion of VT with normal TM

ECV: 0.7

Compliance 0.5

Case 3: male patient 7ys old, complaining of hearing loss 1year ago



Fig(28) Right Tympanogram (Type B)

ECV: 0.6

Compliance 0.05

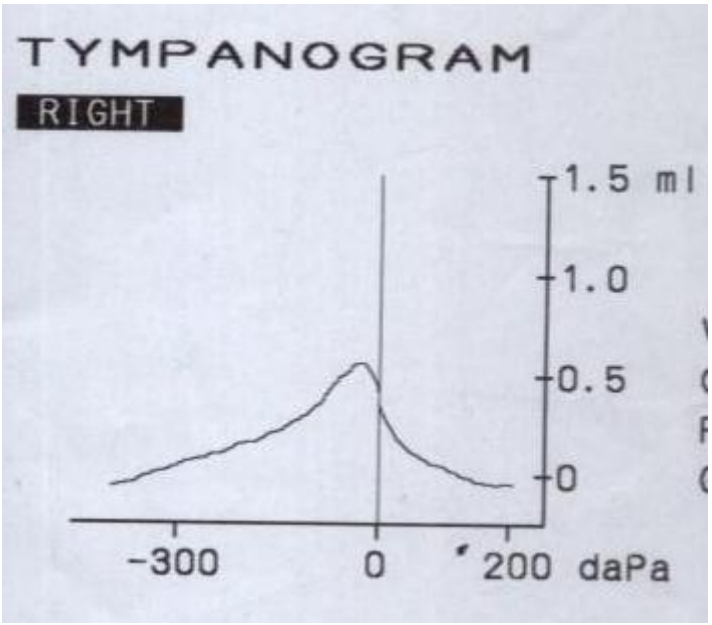
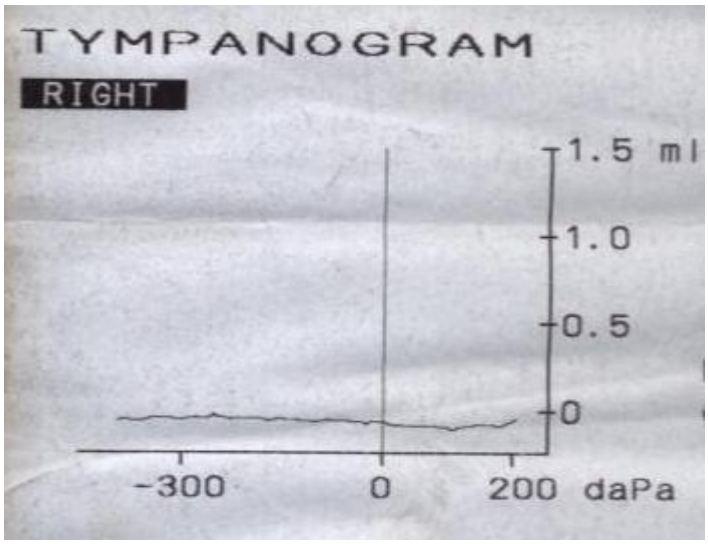


Fig (29) Right Tympanogram (Type A), after extrusion of VT with normal TM

ECV: 0.7

Compliance 0.4

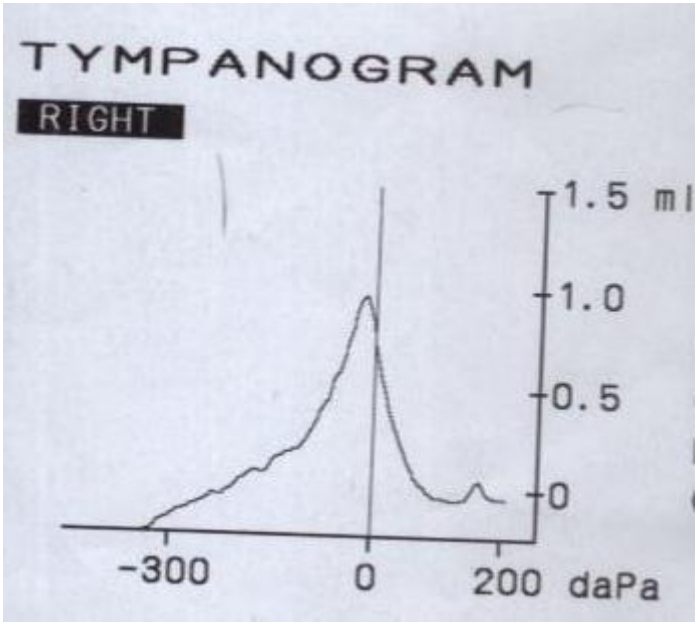
Case 4: female patient, 17ys old, complaining of hearing loss 1year ago



Fig(30) Right Tympanogram (Type B)

ECV: 0.9

Compliance 0.08



Fig(31) Right Tympanogram (Type A), after extrusion of VT with normal TM

ECV: 0.9

Compliance 0.9