

## RESULTS

Table (1) : Comparison between the studied groups of patients regarding age

st. gps \ Age (ys)	$\bar{x}$	$\pm$ S.D	Range	
			Minim	Maxim
I- Melasma (n=15)	30.4	$\pm$ 5.3	23.0	40.0
II- Acne (n=15)	19.0	$\pm$ 2.8	13.0	24.0
III- F.Wrinkles (n=15)	56.1	$\pm$ 9.9	40.0	75.0
F	121.659			

Table (2) : Sex distribution of the studied patients

Sex \ St. patients	Females		Males		Total	
	No	%	No	%	No	%
I- Melasma	13	86.7	2	13.3	15	100.0
II- Acne	11	73.3	4	26.7	15	100.0
III-F.wrinkles	12	80.0	3	20.0	15	100.0
Total	36	80.0	9	20.0	45	100.0

$$\text{Adjusted } x^2 = 0.833$$

$$P = > 0.05 \text{ (N. significant)}$$

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Table (3) : Distribution of the studied groups of patients according to skin type.

Skin type St. patients	II		III		IV		Total	
	No	%	No	%	No	%	No	%
I- Melasma	2	13.3	9	60.0	4	26.7	15	100.0
II- Acne	5	33.3	9	60.0	1	6.7	15	100.0
III-F.wrinkles	4	26.7	8	53.3	3	20.0	15	100.0
Total	11	24.4	26	57.8	8	17.8	45	100.0

Adjusted  $\chi^2 = 3.100$

$P > 0.05$

Table (4): Distribution of melasma & acne patients according to family history of the disease.

Family history Patients	+ Ve		- Ve		Total	
	No	%	No	%	No	%
I- Melasma	8	53.3	7	46.7	15	100.0
II- Acne	12	80.0	3	20.0	15	100.0
Total	20	66.7	10	33.3	30	100.0

Adjusted  $\chi^2 = 2.400$

$P > 0.05$

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Table (5) : Distribution of the studied groups of patients  
according to exacerbation of the disease

Exacerbation St. patients	Present		Absent		Total	
	No	%	No	%	No	%
I- Melasma	9	60.0	6	40.0	15	100.0
II- Acne	13	86.7	2	13.3	15	100.0
III-F.wrinkles	9	60.0	6	40.0	15	100.0
Total	31	68.9	14	31.1	45	100.0

Adjusted  $\chi^2 = 3.318$

$P > 0.05$

Table (6) : Distribution of the studied groups of patients  
according to site of lesions.

Distribution site among the studied patients	No	%
I- Melasma - Malar	8	53.3
(n=15) - Centrofacial	3	20.0
- Totat	7	46.7
II- Acne (n=15) - Fore head	9	60.0
- Malar	12	80.0
- Centrofacial	6	40.0
III- F. Wrinkles - Periorbital	15	100.0
(n=15) - Forehead	8	53.3

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Table (7) : Distribution of patients with fine wrinkles according to appearance of lesions during movement or rest

Distribution	No	%
Seen among st gps		
During movement	15	100.0
During rest	7	46.7
Z	1.980	
P	< 0.05	

Table (8) : Distribution of melasma patients according to the colour of the lesion

Distribution	No	%
Colour of the leisons		
Light brown	5	33.4
Dark brown	8	53.3
Blue brown	2	13.3
Total	15	100.0

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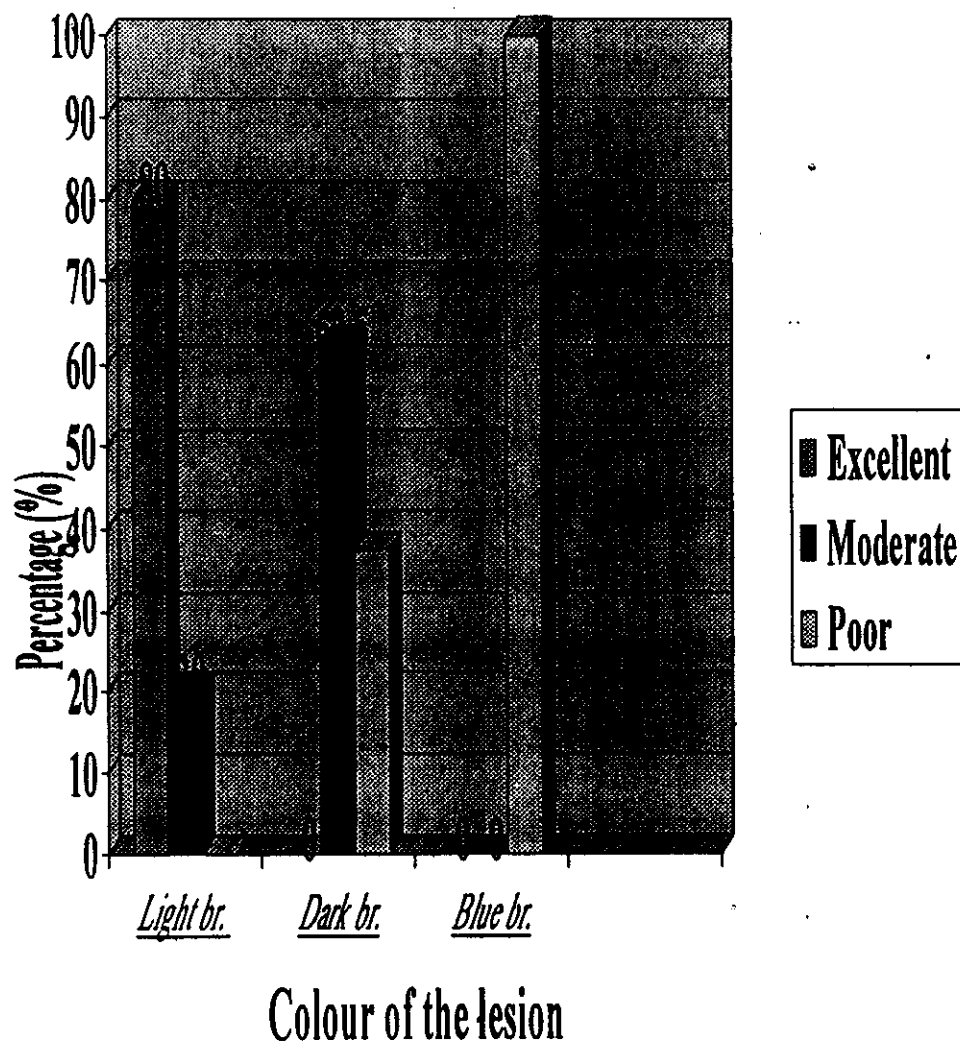
Table (9) : Results of treatment among melasma patients  
according to colour of the lesions

Colour of the lesions Results	Light brown		Dark brown		Blue brown		Total	
	No	%	No	%	No	%	No	%
Excellent	4	80.0	0	0.0	0	0.0	4	26.7
Moderate	1	20.0	5	62.5	0	0.0	6	40.0
Poor	0	0.0	3	37.5	2	100.0	5	33.3
Total	5	100.0	8	100.0	2	100.0	15	100.0
Z	4.472		2.191		--		--	
P	< 0.01		< 0.05		--		--	

Table (10) : Results of treatment among melasma patients  
according to skin type

Skin type Results	II		III		IV		Total	
	No	%	No	%	No	%	No	%
Excellent	1	50.0	4	44.4	0	0.0	5	33.3
Moderate	0	0.0	5	55.6	0	0.0	5	33.3
Poor	1	50.0	0	0.0	4	100.0	5	33.3
Total	2	100.0	9	100.0	4	100.0	15	100.0

Fig.(1): Results of treatment among melasma patients according to colour of the lesion.



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Table (11) : Results of treatment among melasma patients  
according to the chemical agent

Chemical agents \ Results	Excellent		Moderate		Poor		Total	
	No	%	No	%	No	%	No	%
TCA 35%	2	40.0	2	40.0	1	20.0	5	100.0
Jess. sol.	2	40.0	2	40.0	1	20.0	5	100.0
gly. 50%	1	20.0	2	40.0	2	40.0	5	100.0
Total	5	33.3	6	40.0	4	26.7	15	100.0

Adjusted  $\chi^2 = 0.900$

$P > 0.05$  (N. signif.)

Table (12) : Effect of treatment with TCA 35% on acne lesions  
among the studied patients

Lesions \ TCA 35%	Before treatment		After treatment		Z	P
	No	%	No	%		
Papules	5	100.0	2	40.0	1.316	$>0.05$
Pustules	5	100.0	1	20.0	2.390	$<0.05$
Comedones	4	80.0	0	0.0	4.472	$<0.01$
Pitted scars	3	60.0	3	60.0	--	--
Post infl. hyperpig.	2	40.0	4	80.0	0.877	$>0.05$

Fig.(3): Results of treatment among melasma patients according to the chemical agents.

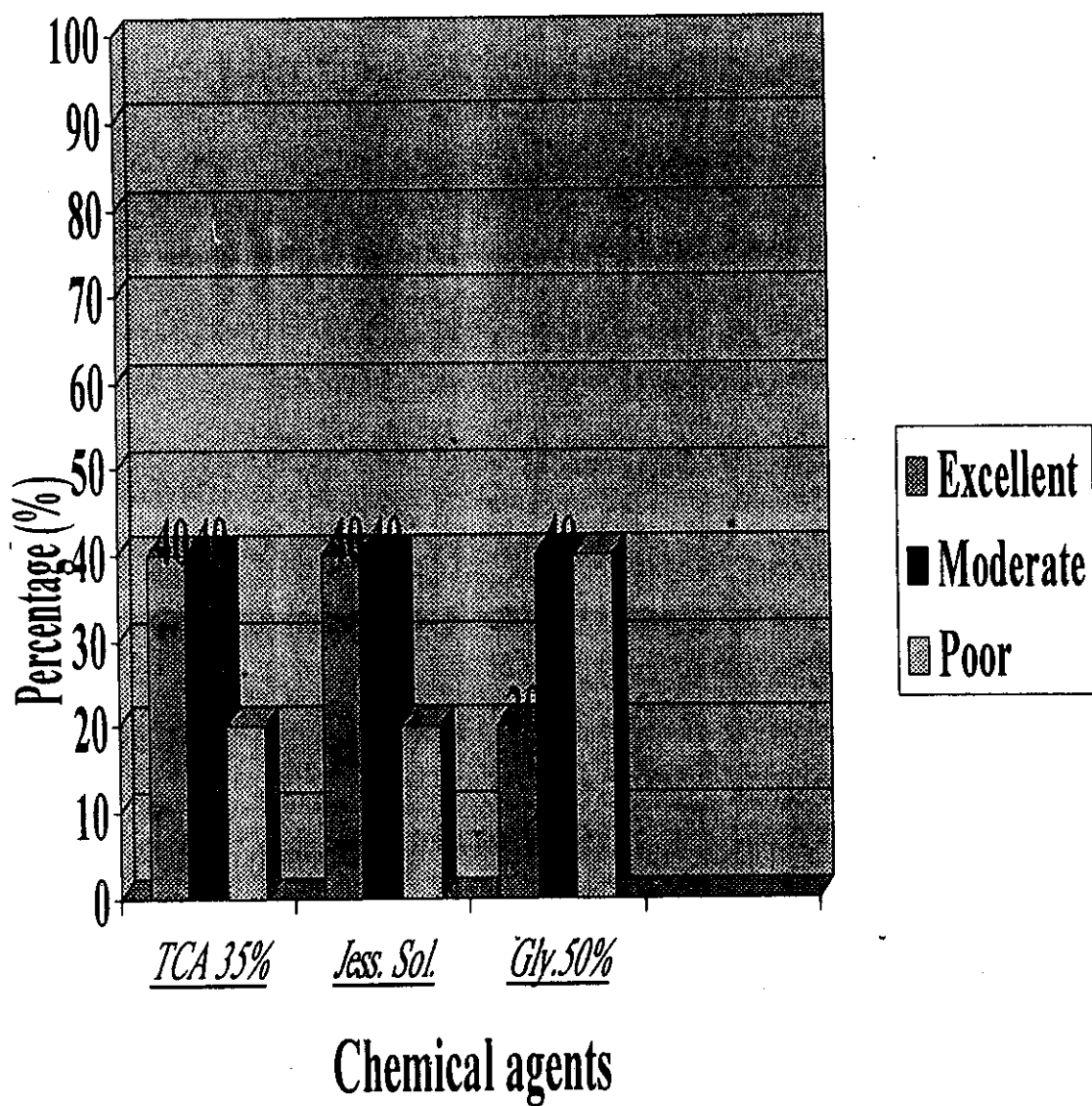
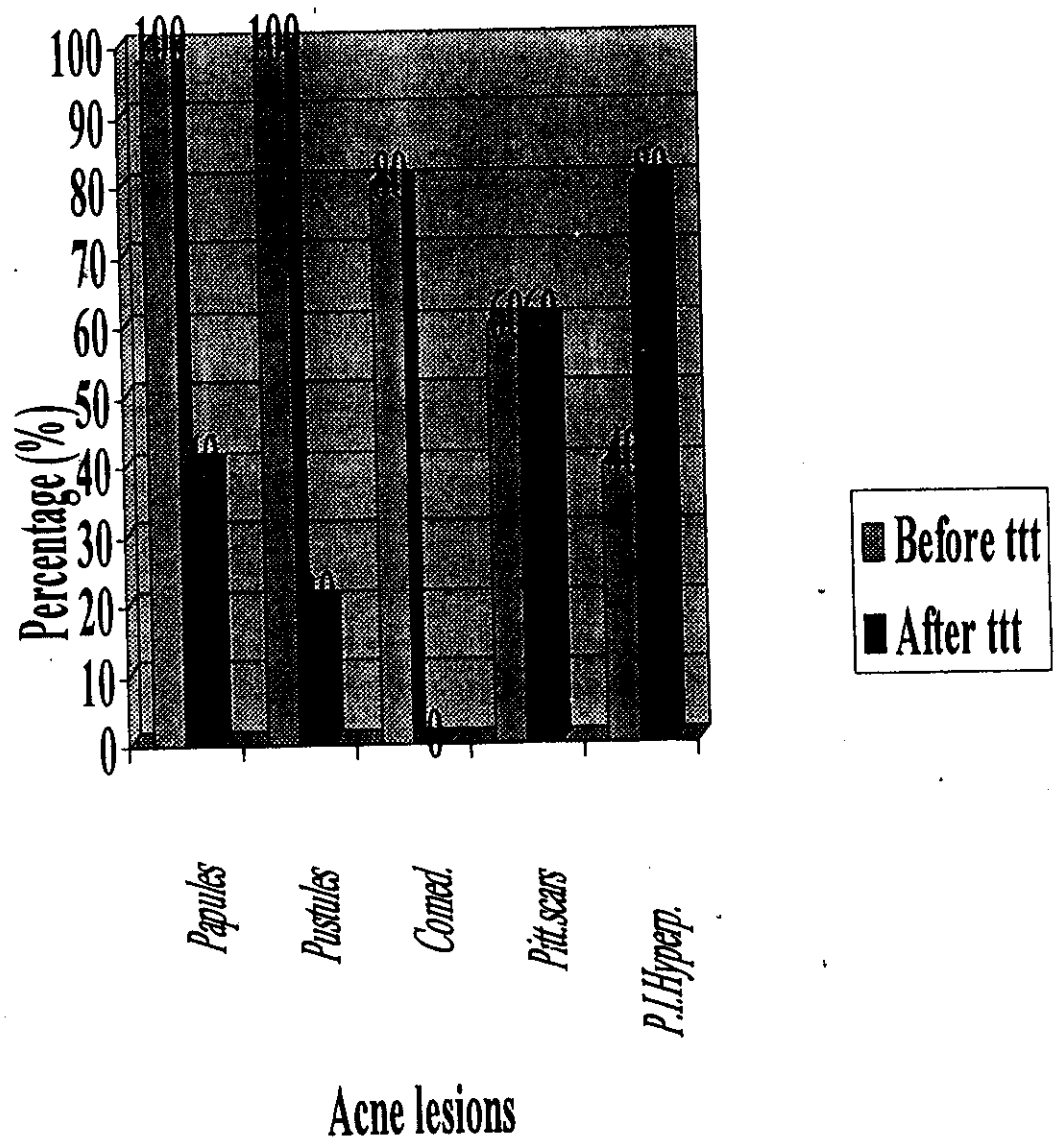




Fig.(4): Effect of treatment with TCA 35% on acne lesions.



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Table (13) : Effect of treatment with Jessner's solution on Acne lesions among the studied patients

Lesions \ Jess.sol.	Before treatment		After treatment		Z	P
	No	%	No	%		
Papules	5	100.0	3	60.0	0.745	>0.05
Pustules	3	60.0	0	0.0	-	<0.01
Comedones	4	80.0	0	0.0	-	<0.01
Pitted scars	1	20.0	1	20.0	-	-
Post infl. hyperpig.	1	20.0	1	20.0	-	-

Table (14) : Effect of treatment with glycolic acid 50% on acne lesions among the studied patients

Lesions \ Gly. 50%	Before treatment		After treatment		Z	P
	No	%	No	%		
Papules	3	60.0	1	20.0	1.118	>0.05
Pustules	4	80.0	0	0.0	4.472	<0.01
Comedones	3	60.0	1	20.0	1.118	>0.05
Pitted scars	4	80.0	4	80.0	--	--
Post infl. hyperpig.	2	40.0	2	40.0	--	--

Fig.(5): Effect of treatment with Jess.sol. on acne lesions.

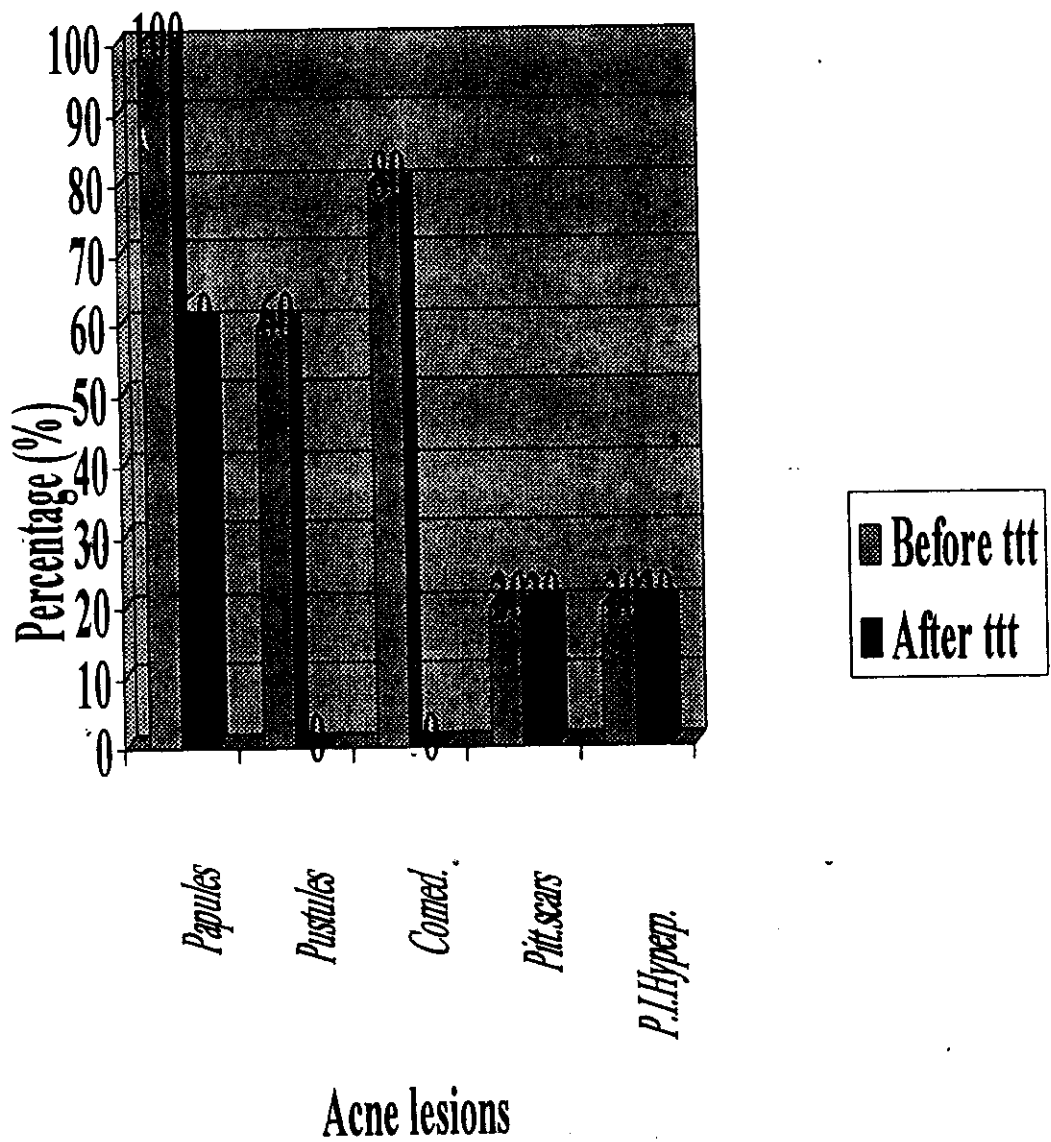
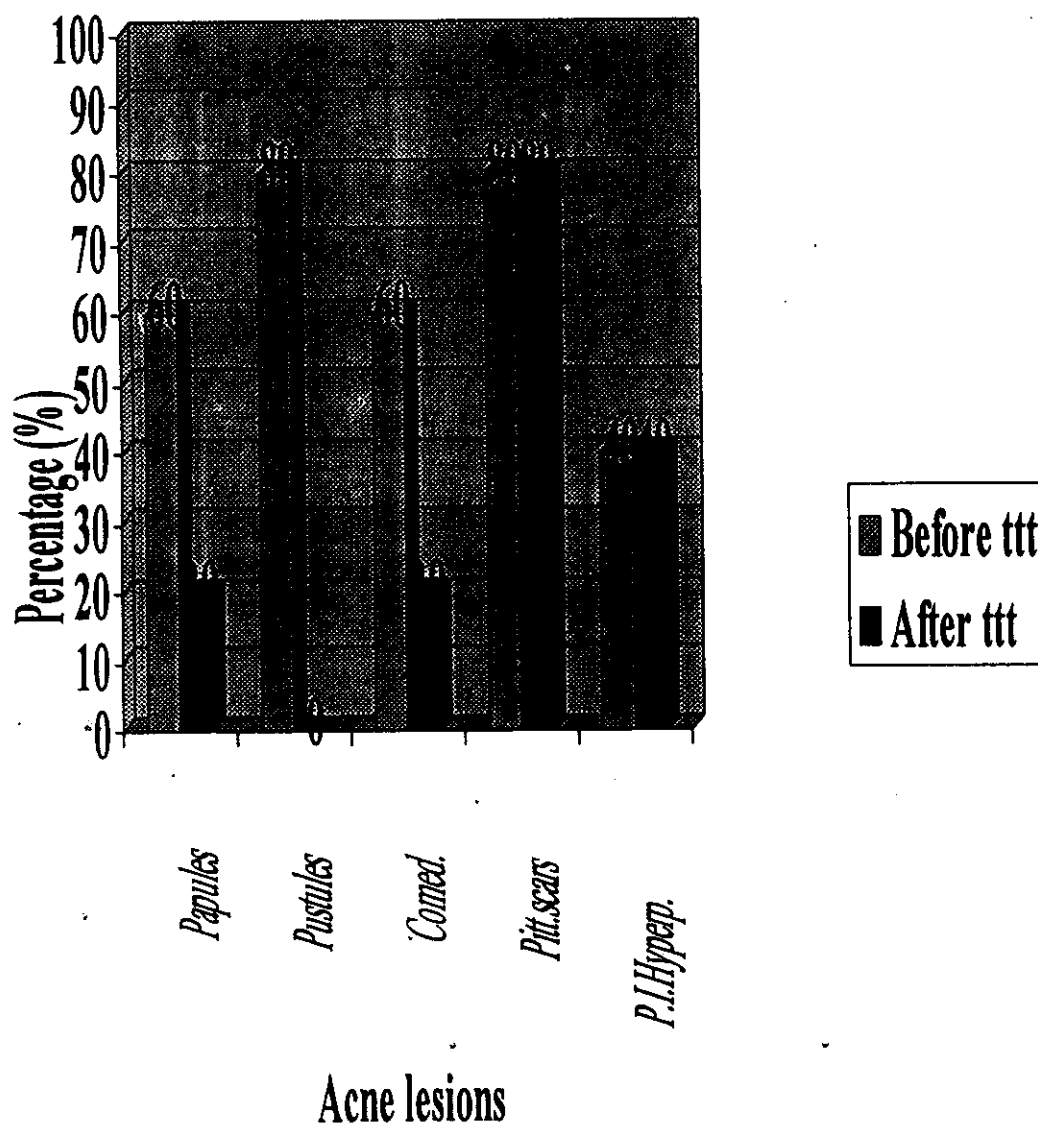


Fig.(6): Effect of treatment with Gly. 50% on acne lesions.



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Table (15) : Effect of treatment on the different types of lesions among acne patients.

Lesions \ Timing	Before treatment		After treatment		Z	P
	No	%	No	%		
Papules	13	86.7	6	40.0	1.965	<0.05 (Sig)
Pustules	12	80.0	1	6.7	4.952	<0.01 (H.S)
Comedones	11	73.3	1	6.7	4.330	<0.01(H.S)
Pitted scars	8	53.3	8	53.3	--	-
Post infl. hyperpig.	5	53.3	7	46.7	0.548	>0.05 (N.S)

Table (16) : Effect of treatment with the 3 chemical agents on the site of lesions of fine wrinkles

Ch.agent & site of lesion \ Timing	Before treatment		After treatment		Z	P
	No	%	No	%		
TCA 35%-Periorbital	5	100.0	2	40.0	1.316	>0.05
- Forehead	1	20.0	1	20.0		
Jess.sol-Periorbital	5	100.0	2	40.0	1.316	>0.05
- Forehead	3	60.0	3	60.0		
Gly.So%, -Periorbital	5	100.0	3	60.0	0.745	>0.05
- Forehead	4	80.0	4	80.0		

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Table (17) : Effect of treatment on the site of lesions among fine wrinkles patients

Timing Lesions	Before treatment		After treatment		Z	P
	No	%	No	%		
Periorbital	15	100.0	7	46.7	1.980	<0.05
Forehead	8	53.3	8	53.3	--	--

Table (18): Complications among the studied patients according to chemical agent.

Ch.agent Compl.	TCA 35%		Jess		Gly. 50%		Total	
	No	%	No	%	No	%	No	%
Absent	7	46.7	11	73.3	13	86.7	31	68.9
Present	8	53.3	4	26.7	2	13.3	14	31.1
Erythema	2	13.3	2	13.3	2	13.3	6	13.3
Post infl.hyperpig	6	40.0	2	13.4	0	0.0	8	17.8
Total	15	100.0	15	100.0	15	100.0	45	100.0

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### **Results obtained from the history and examination :**

The mean age of patients was (Table 1).

**In Group I :  $30.4 \pm 5.3$  years**

**In Group II :  $19.0 \pm 2.8$  years**

**In Group III :  $56.1 \pm 9.9$  years**

The mean percentage of sex distribution among the studied patients were as follows (Table 2).

**In Group I : 86.7% (13) females & 13.3% (2) Males**

**In Group II : 73.3% (11) females & 26.7% (4) Males**

**In Group III : 80.0% (12) female & 20.0% (3) Males**

Distribution of the studied group of patients according to skin type was (Table 3).

**In Group I : 13.3% (2) skin type II 60.0% (9) skintype III.  
26.7% (4) skin type IV.**

**In Group II : 33.3% (5) skin type II 60.0% (9) skin type III  
6.7% (1) skin type IV.**

**In Group III : 26.7% (4) s kin type II 53.3% (8) skin typeIII  
20.0% (3) skintyhpe IV.**

Distribution of Melasma & Acne patients according to family history was (Table 4).

**In Group I: 53.3% (8) of patients had positive family history.**

**In Group II : 80.0% (12) had a positive family history.**

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Distribution of the studied group of patients according to exacerbation of the disease on sun exposure (Table 5).

**In Group I** : 60.0% (9)

**In Group II** : 86.7% (13)

**In Group III** : 60.0% (9).

Group II was the only group which showed variation in the severity of the disease during menstrual cycle  $P = > 0.05$ .

Distribution of the studied group of patients according to the site of the lesion (Table 6).

**In Group I** : 53.3% (8) with Malar lesions.

20.0% (3) with centrofacial.

46.7% (7) with total face affection.

**In Group II** : 60.0% (9) of patients with lesions on the forehead.

80.0% (12) of patients with lesions on malar areas.

40.0% (6) of patients with lesions on centrofacial.

**In Group III** : 100% (15) with periorbital wrinkles.

53.3% (8) with wrinkles on the forehead.

This was further subdivided into 100% (15) of wrinkles was present during movement while only 46.7% (7) was obvious during rest (Table 7).



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Distribution of melasma patient's according to the colour of the lesion (Table 8) 33.4% (5) of patients had a light brown pigmentation, <sup>(ep.d.)</sup> 53.3% (8) had dark brown pigmentation, <sup>(mixed)</sup> while 13.3% (2) had a blue brown pigmentation (dermal)

### Results of Treatment :

*In Group I (Melasma) :* There was no significant difference in the treatment results of the 3 superficial chemical agents used (Table 11), but the results varied according to the depth of pigments (colour of the lesions) in the treated areas and in the skin type colour of the patient according to fitzpatrick classification (Table 9 and 10).

An excellent improvement was noticed in 4 patients out of 5 (80.0%) with epidermal type of melasma (light brown colour) 4 of which, were of skin type III (44.4%) and only 1 (50.0%) was of skin type II.

Moderate improvement was noticed in 6 patients (40.0%), where 5 of them (62.5%) had a mixed type of melasma (dark brown colour) and only 1 (20.0%) had an epidermal type of melasma (Light brown), all of them 5 (55.6%) were of skin type III.

Poor improvement was noticed in 5 patients (33.3%), where 3 patients (37.5%) had a mixed type of melasma (dark brown) and the other 2 (100.0%) had a dermal type of melasma

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(Blue Brown). Most of these patients 4 (100%) were of skin type IV and only 1 (11.1%) was of skin type III.

*In Group II (Acne) :* The results revealed that there was no significant difference between the 3 types of superficial chemical peeling used, but the difference was attributed according to the predominante type of acne lesions among the studied patients (Table 12-13-14).

*Papular lesions :* There was no significant difference in the improvement of papular lesions in acne patients treated with TCA 35%, ( $P < 0.05$ ).

*Pustular lesions :* There was a significant difference in the improvement of pustular lesions in acne patients treated with TCA 35% ( $P < 0.05$ ) and a highly significant difference in those treated with Jessener's solution or with glycolic acid 50%.

*Comedones :* There was a highly significant difference in the improvement of comedonic lesions in acne patients treated with TCA 35% or with Jessner's solution, but there was no significant difference among those treated with glycolic acid 50%.

*Pitted scars :* There was no improvement in all acne patients.

**Post-inflammatory hyperpigmentation :**

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There was no improvement in all acne patients, but in TCA group : the patients who had post-inflammatory hyperpigmentation before treatment were 2 (40.0%) and after treatment they were 4 (80.0%) & this was due to complications during therapy.

*In Group III (Fine wrinkles)* : The results revealed that there was no significant difference between the 3 types of superficial chemical peeling used, but the difference was attributed according to the site of the lesions among the studied patients (Table 16,17).

Periorbital fine wrinkles were significantly improved among the studied patients treated with TCA 35%, Jessner's solution and Glycolic acid 50% ( $P < 0.05$ ) (Table 17).

There was no improvement in patients with forehead fine wrinkles among the studied group treated with the 3 superficial chemical peeling agents.

### **Complications**

Complications of superficial-depth chemical peel include hyperpigmentation, prolonged erythema, herpes simplex virus I infection, darkening of pigmented nevi, or apparent enlargement of pores and others. Fortunately I have seen only mild problems with post inflammatory hyperpigmentation and an early applications of 4% hydroquinone bleach was effective in fading

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the discolouration. Prolonged erythema was also a problem which usually resolves without scarring after using 1% hydrocortisone cream.

14 patients out of 45 (31.1%) were noticed to have complications (Table 18).

*In TCA 35% gp:* 8 patients out of 15 (53.3%) were noticed to have complications in the form of 2 patients (13.3%) had a prolonged erythema in Group II (Acne) and 6 patients (40.0%) had a post inflammatory hyperpigmentation, where 3 patients were in Group I (Melasma), 1 patient in Group II (Acne) & 2 patients in group III (fine wrinkles).

*In Jessner's group :* 4 patients out of 15 (26.7%) were noticed to have complications in the form of : prolonged erythema which was seen in 2 patients (13.3%) where one of them was in Group II and the other was in group III.

Post inflammatory hyperpigmentation was seen in 2 patients (13.3%) in Group I.

*In glycolic acid 50% group :* 2 patients out of 15 (13.3%) complained of a prolonged erythema, they were in group I & II.

All patients as expected had an erythema and mild desquamation after treatment with the chemical peel which last for 10 days on the average and no more than 2 weeks.

## *RESULTS*

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Patients in TCA 35% & ~~Jes~~<sup>6</sup>ner's solution groups all complained of pain due to the chemical peel, where as 3 patients complained of pain from glycolic acid 50%.

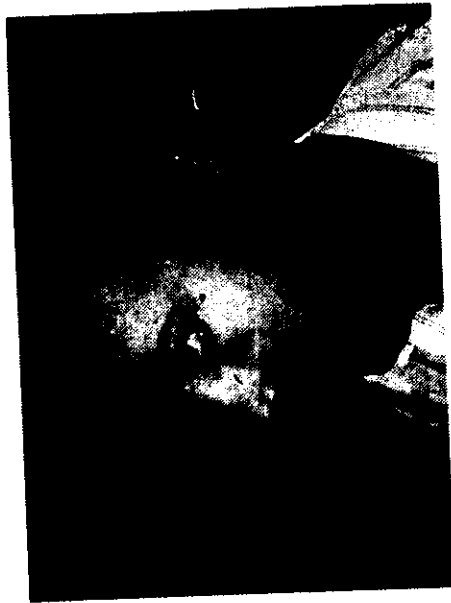
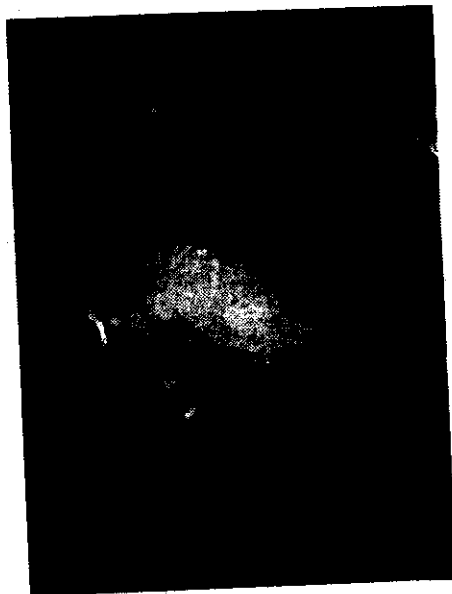
**Case No .5**

**Male patient 35y. Skin type II**

**treated by TCA 35%**

**After 6ms of Treatment**

**Before Treatment**



**Case No .9**

**Female patient 37y. Skintype III**

**treated by Jess. Sol.**

**After 5ms of Treatment**

**Before Treatment**



**Case No. 15**

**Female patient 33y. Skin type II treated by Gly. 50%**

**Before Treatment**

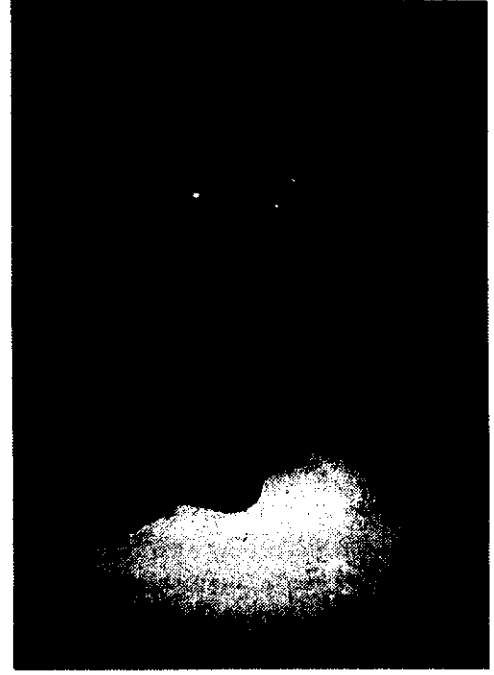


**After 1ms of Treatment**



**Note the crust  
On the cheeks  
which look  
like a sun burn**

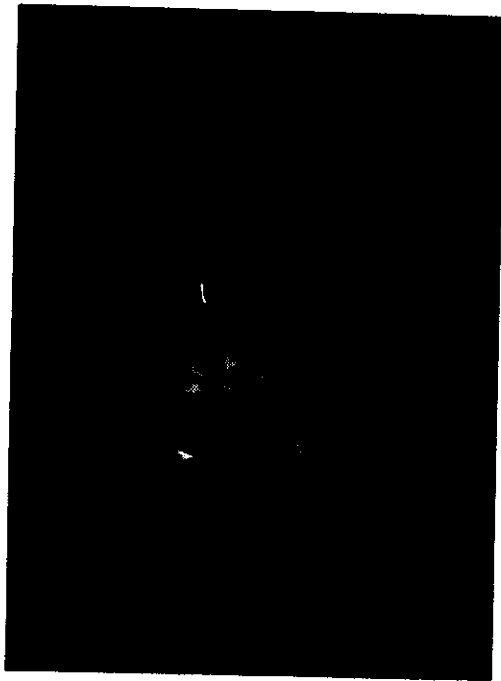
**After 3ms of Treatment**



**Case No .3**  
**Female patient 24y. Skin type III**

**treated by TCA 35%**

**Before Treatment**



**After 4ms of Treatment**



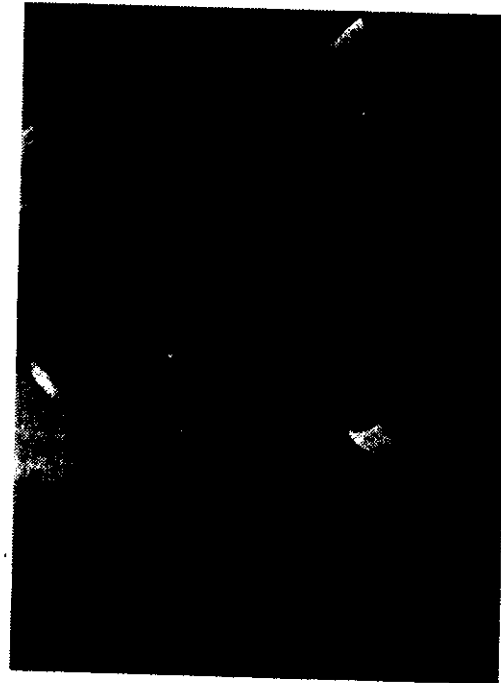
**Case No .9**  
**Female patient 22y. Skin type II**

**treated by Jess .Sol.**

**Before Treatment**



**After 2ms of Treatment**





**Case No. 15**

**Female patient 18y. Skin type III treated by Gly. 50%**

**Before Treatment**



**After 4ms of Treatment**

