

## ***RESULTS***

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Sixty-seven males and fifteen females suffering from acne vulgaris were included in the study.

Their ages ranged between 15 and 32 years with a mean of 18.94 years.

The duration of their disease was from 2 to 168 weeks with a mean of 35.67 weeks.

The percentage of non-inflammatory lesions was 42% and that of inflammatory lesions was 58%.

Acne over the chest was present in 7 cases (8.54%).

Acne over the upper back was present in 9 patients (10.98%).

Seborrhea was present in 31 patients (37.81%).

All patients received azelaic acid 20% cream once daily for 2 weeks, then twice daily for the rest of the study period.

All patients were seen monthly for 5 visits. 61 patients (74.39%) completed the 5 month study. 21 patients (25.61%) had early remission.

Clinical improvement started to appear from the 2nd visit, and continued till the last follow up visit, at the 5th month of therapy.

The improvement achieved in acne lesions at every visit in a comparison with the base line visit is illustrated in table (1).

	White Comedo	Black Comedo	Papules	Pustules	Nodules/ Cysts	Total
Baseline	919	728	1543	616	94	3900
Month 1	653(29%)	378(-21%)	1099(29%)	356(42%)	50(15%)	3066(21%)
Month 2	475(48%)	702(4%)	742(52%)	157(75%)	70(26%)	2146(45%)
Month 3	338(63%)	499(31%)	466(70%)	95(85%)	32(34%)	1460(63%)
Month 4	205(78%)	349(52%)	328(79%)	50(92%)	55(41%)	987(75%)
Month 5	106(88%)	204(72%)	168(89%)	17(97%)	33(65%)	528(86%)

Table (1): Reduction in lesion counts

The improvement of facial acne assessed by physician was scored as follows- excellent in 54 patients., good in 20 patients., moderate in 6 patients., & no improvement in 2 patients

Table (2) illustrate the improvement/ physician and/patient.

	Improvement of facial acne/Physician		Improvement of facial acne/Patient	
	Count	Percent	Count	Percent
Excellent	54	65.85	49	59.76
Good	20	24.39	20	24.39
Moderate	6	7.32	10	12.20
No improvement	2	2.44	3	3.66
Total	82	100.00	82	100.00

Table (2) Improvement of facial acne/physician and /patient

Only one patient used azelaic acid for his acne over the back and the result of its use was excellent both in relation to the physician and the patient.

Also another patient used azelaic acid for his acne over the chest and the result of its use was excellent in relation to the physician and the patient.

### ***COSMETIC ACCEPTABILITY OF AZELAIC ACID «TABLE 3»***

The cosmetic acceptance of azelaic acid cream to the patient was very good in 76.83% of patients, good in 20.73% of patients and satisfactory in 2.44%

	Count	Percent
Very good	63	76.83
Good	17	20.73
Satisfactory	2	2.44
Total	82	100.00

Table (3) cosmetic acceptability of azelaic acid/patient.

### ***TOLERANCE:***

Azelaic acid cream was of good local tolerance in 80 patients (97.56%) and was acceptable with minor irritation in 2 patients (2.44%).

Azelaic acid versus previous therapy used by the patients illustrated in table (4).

	Count	Percent
Better	67	81.71
Equal	14	17.07
Worse	1	1.22
Total	82	100.00

Table (4) Azelaic acid Vs. previous therapy/patient

The effect of azelaic acid on non inflammatory lesions (Figure I)

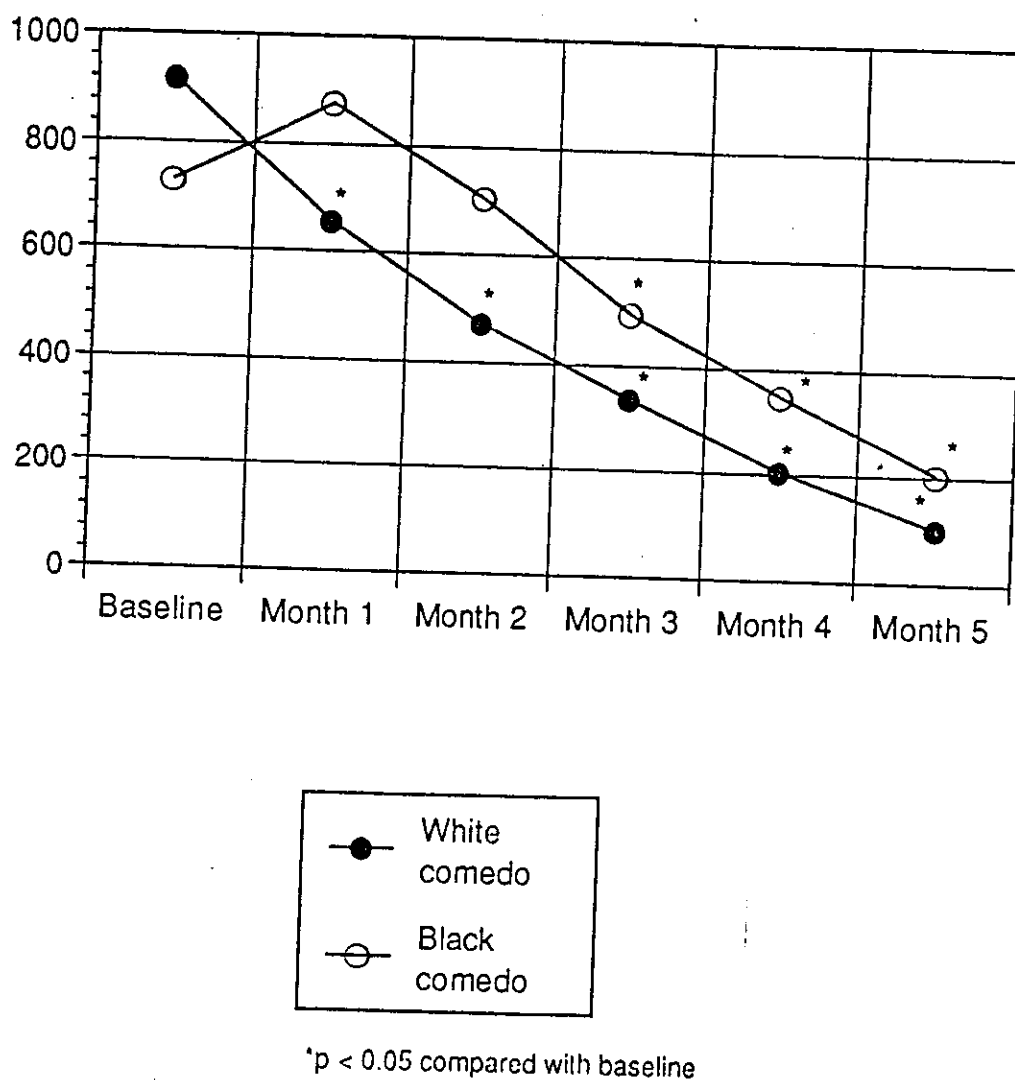


Figure (I): Improvement of non inflammatory lesions (comedones).

## **BLACK COMEDONES**

An initial increase in the count of black comedones were found at the end of the 1st month then gradual decrease till the end of the study; where the mean count of lesions was as follows 8.878 before therapy, 10.707 at the end of 1st month, 8.561 at the end of 4th month, and 2.488 after the end of therapy respectively (Table 5)

Black comedones

	BC1	BC2	BC3	BC4	BC5	BC6
Mean	8.878	10.707	8.561	6.086	4.266	2.488
Std Dev.	9.759	10.575	9.614	8.677	7.067	5.473
Std Error	1.078	1.168	1.061	.947	.779	.604
Count	82	82	82	82	82	82

Table (5)

## **WHITE COMEDONES**

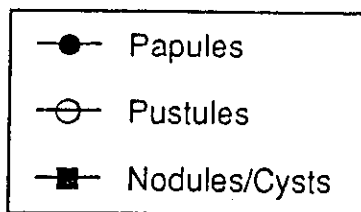
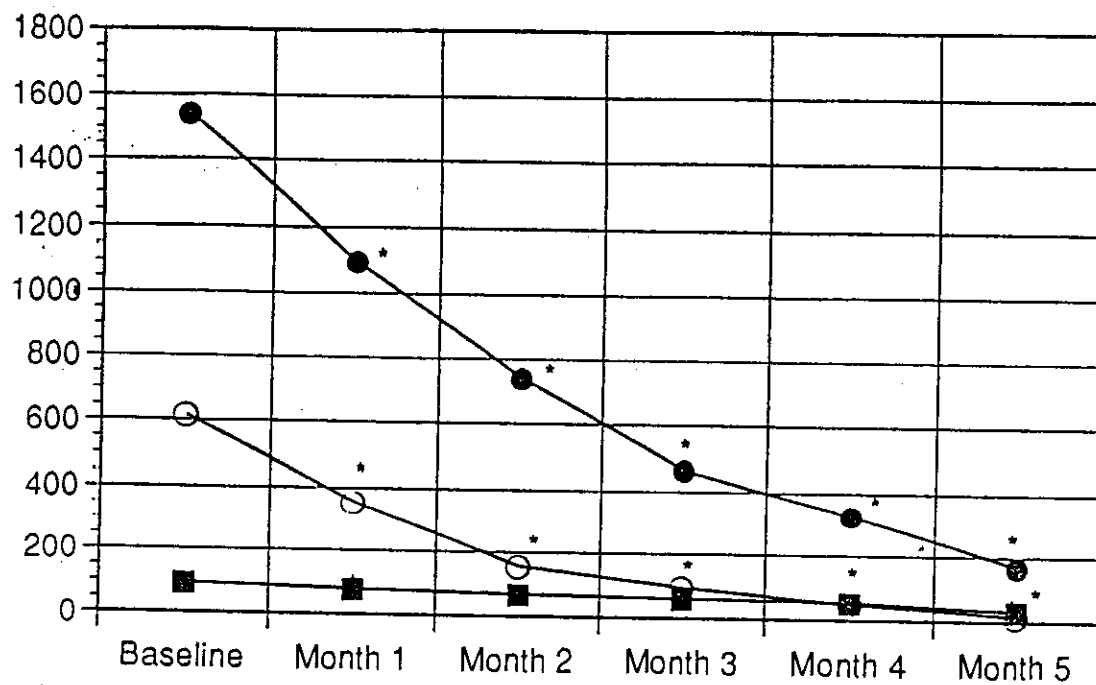
A gradual decrease in the mean count of white comedones was detected till the end of the study; where the mean count of lesions was as follows: 11.207 before therapy, 7.963 at the end of 1st month, 5.793 at the end of 2nd month, 4.122 at the end of 3rd month, 2.500 at the end of 4th month and 1.293 after the end of therapy respectively (Table 6)

White comedones

	WC1	WC2	WC3	WC4	WC5	WC6
Mean	11.207	7.963	5.793	4.122	2.500	1.293
Std Dev.	10.834	9.420	8.510	7.623	5.056	3.180
Std Error	1.196	1.040	.940	.842	.568	.361
Count	82	82	82	82	82	82

Table (6)

# EFFECT OF AZELAIC ACID ON INFLAMMATORY LESIONS: (FIGURE II)



\*p < 0.05 compared with baseline

## IMPROVEMENT OF INFLAMMATORY LESIONS (figure II)

**Papules:—**

A gradual decrease in the mean count of papules was detected; where the mean count of lesions was as follows: 18.817 before therapy, 13.402 at the end of 1st month, 9.049 at the end of 2nd month, 5.683 at the end of 3rd month, 4.00 at the end of 4th month and 2.049 after the end of therapy respectively (Table 7).

**PAPULES**

	Papules1	Papules2	Papules3	Papules4	Papules5	Papules6
Mean	18.817	13.402	9.049	5.683	4.000	2.049
Std Dev.	13.455	10.840	8.285	5.799	4.805	4.100
Std Error	1.486	1.197	.915	.640	.531	.453
Count	82	82	82	82	82	82

(Table 7): Effect of Azelaic acid on papules

**Pustules:—**

A significant decrease in the count of pustules was generally observed where the mean count of pustules was as follows: 7.512 before therapy, 4.341 at the end of 1st month, 1.915 at the end of 2nd month, 1.159 at the end of 3rd month, 0.610 at the end of 4th month and 0.207 at the end of study.(Table 8).

**PUSTULES**

	Pustules1	Pustules2	Pustules3	Pustules4	Pustules5	Pustules6
Mean	7.512	4.341	1.915	1.159	.610	.207
Std Dev.	8.095	6.441	3.866	2.375	1.421	.952
Std Error	.894	.711	.427	.262	.157	.105
Count	82	82	82	82	82	82

Table (8): Effect of azelaic acid on pustules



### **Nodules and cysts:-**

A slow and gradual decrease in the count of nodules and cysts was generally observed; where the mean count of nodules before therapy 0.841, 0.220 after the end of therapy, the mean count of cysts before therapy 0.305, and after the end of therapy was 0.183 (Table 9,10).

#### **NODULES**

	Nodules1	Nodules2	Nodules3	Nodules4	Nodules5	Nodules6
Mean	.841	.646	.573	.500	.415	.220
Std Dev.	3.133	3.036	2.833	2.525	2.154	1.296
Std Error	.346	.335	.313	.279	.238	.143
Count	82	82	82	82	82	82

Table (9): Effect of azelaic acid on nodules

#### **CYSTS**

	Cyst1	Cyst2	Cyst3	Cyst4	Cyst5	Cyst6
Mean	.305	.329	.280	.256	.256	.183
Std Dev.	1.162	1.176	1.010	.914	.914	.722
Std Error	.128	.130	.111	.101	.101	.080
Count	82	82	82	82	82	82

Table (10): Effect of azelaic acid on cysts

The effect of azelaic acid on total lesion count:  
Azelaic acid decreased the mean total lesion count as follows: 47.561 before the start of therapy , 37.390, 26.171, 17.805, 12.037, 6.439 at the end of 1st, 2nd, 3rd, 4th & 5th month of therapy respectively (Table 11).

## TOTAL LESION COUNT

	Total1	Total2	Total3	Total4	Total5	Total6	Sum Total
Mean	47.661	37.390	28.171	17.806	12.037	6.439	147.402
Std Dev.	21.682	20.518	17.806	16.178	12.230	9.617	87.736
Std Error	2.383	2.266	1.944	1.676	1.351	1.062	9.689
Count	82	82	82	82	82	82	82

Table (11): Effect of azelaic acid on total lesion count