

# THE EFFICACY AND SAFETY OF A CREAM CONTAINING SALICYLIC ACID, LIPOHYDROXY ACID, NICOTINAMIDE AND PIROCTONE OLAMINE COMBINED WITH 5% BENZOYL PEROXIDE IN THE TREATMENT OF ACNE VULGARIS: A RANDOMIZED CONTROLLED STUDY

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## INTRODUCTION

This study investigated the clinical efficacy of a dermocosmetic cream (DC) containing salicylic acid, lipohydroxy acid, nicotinamide and piroctone olamine combined with 5% benzoyl peroxide (BPO) in the treatment of acne vulgaris.

## RESULTS

### Efficacy on comedone numbers:

After 4 weeks (Day 28) and 8 weeks of treatment (Day 56), the reduction of comedones by either DC alone (Group A) or DC combined with BPO (Group B) shown in Table 1 was significantly higher ( $p < 0.05$ ) than that of BPO alone (Group C).

Table 1: The changes in the number of comedones over time

Group	D0	D7	D14	D28	D56
DC	6.30±3.55	6.09±3.19	4.57±2.84	2.65±1.85	1.61±2.06
DC combined with BPO	8.67±4.95	7.29±4.48	4.86±2.90	2.43±1.83	1.14±1.28
BPO	6.95±4.52	6.55±4.07	5.40±3.52	3.85±1.79	2.80±1.58

### Efficacy on the number of inflammatory papules:

As of Day 14, the reduction of inflammatory papules by BPO alone shown in Table 2 was significantly higher ( $p = 0.031$ ) than that produced by DC alone. At 8 weeks of treatment (Day 56), DC combined with BPO and BPO alone had significantly better efficacy ( $p < 0.05$ ) than DC alone.

Table 2: Number of papules over time (Mean±SD)

Group	D0	D7	D14	D28	D56
DC	5.35±2.44	5.48±2.56	4.87±2.90	2.96±1.85	1.96±1.30
DC combined with BPO	6.71±3.27	6.29±3.52	3.57±1.86	1.90±2.34	1.00±1.22
BPO	6.10±2.51	5.10±2.65	3.25±2.27	1.65±1.76	0.65±0.75

## MATERIAL & METHODS

Patients were randomly divided into three groups of 22 subjects each:

- Group A: treated with DC;
- Group B: DC combined with BPO;
- Group C: treated with BPO.

The subjects were followed up at baseline, Day 7, Day 14, Day 28 and Day 56. The regression of comedones and inflammatory papules, skin erythema values, and adverse reactions were recorded.

### Efficacy on skin lesion numbers (comedones + papules):

DC combined with BPO had the fastest skin lesion clearance rate as illustrated in Table 3, which was statistically significant ( $p < 0.05$ ). At 8 weeks of treatment (Day 56), the skin lesion clearance rates of the 3 groups were good, the clearance rate of the combination of DC with BPO being the highest ( $p < 0.05$ ).

Table 3: Number of skin lesions over time (Mean±SD)

Group	D0	D7	D14	D28	D56
DC	11.65±3.27	11.57±3.01	9.43±3.58	5.61±2.92	3.57±2.59
DC combined with BPO	15.38±4.33	13.57±4.35	8.43±3.23	4.33±3.17	2.14±1.96
BPO	13.05±4.65	11.65±4.21	8.65±3.53	5.50±2.61	3.45±1.76

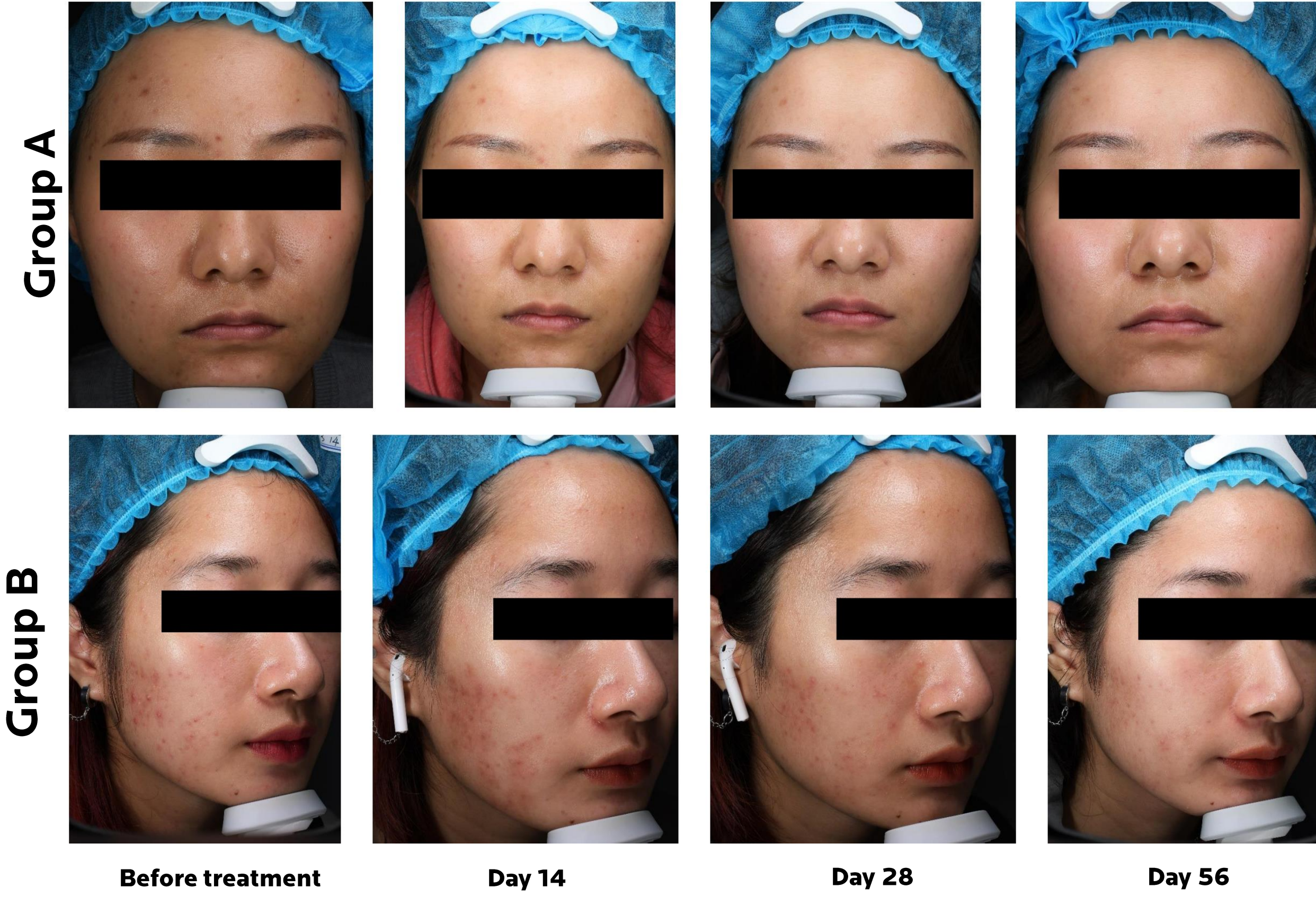


Figure 1: Mean cases

### Erythema index (Figure 2):

There was a gradual and statistically significant ( $p < 0.05$ ) decrease of erythema for subjects treated with DC (Group A). There was no difference between subjects treated with the combination of DC with BPO (Group B) and those treated with BPO alone (Group C). There was no significant difference for subjects treated with combination of DC with BPO and those treated with BPO alone over time.

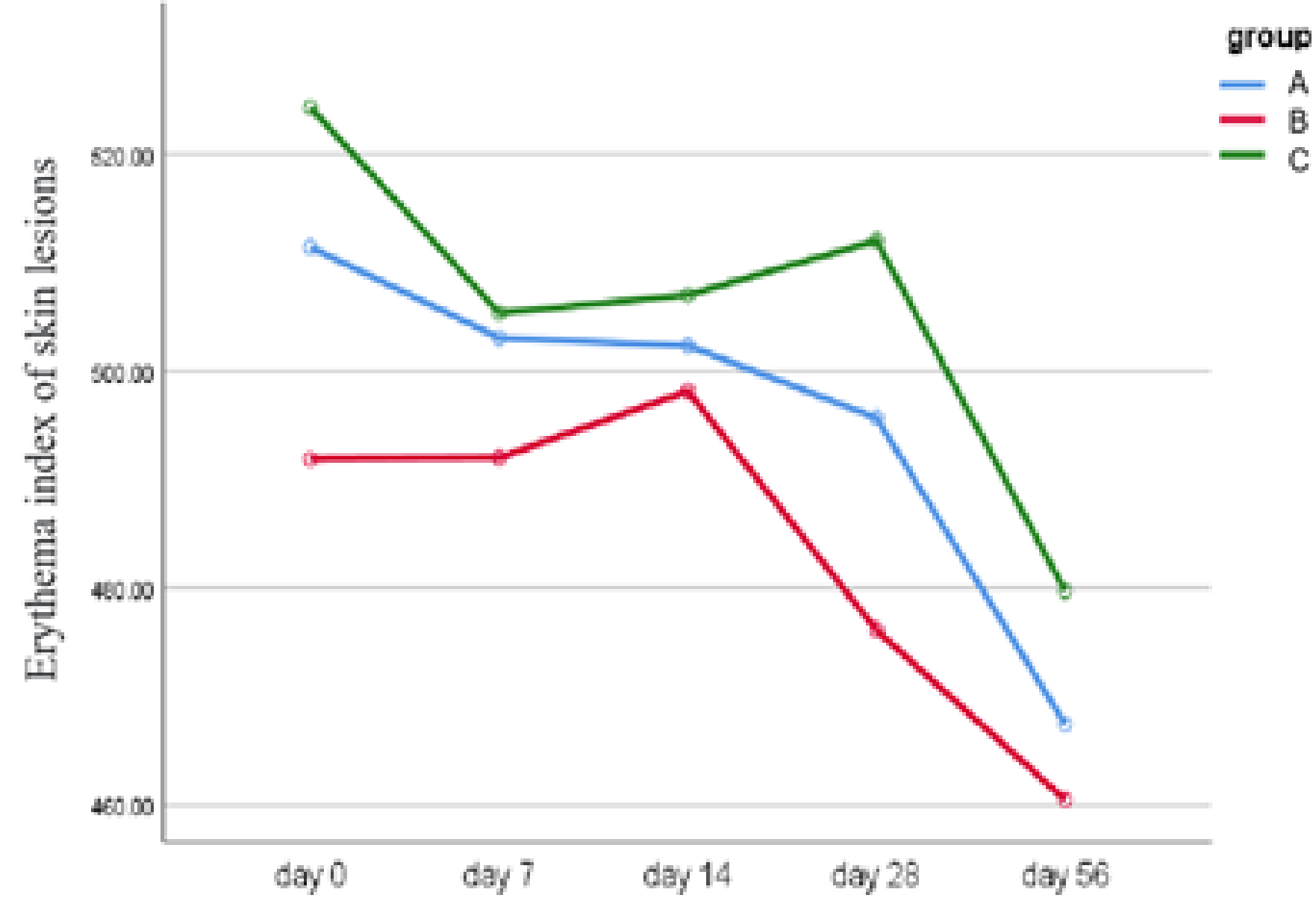


Figure 2: Change of erythema over time

## DISCUSSION

The association of the dermocosmetic cream combined with BPO showed a better efficacy for the treatment of acne and faster lesion clearance rate than either DC cream alone or BPO alone.