

## THESIS ABSTRACT

### **Preparations and Comparison of the Efficacy of a Combination Topical Solution of Erythromycin 3% with Salicylic Acid 2% Versus Clindamycin 3% with Salicylic Acid 2% in the Treatment of Acne Vulgaris.**

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#### **Background**

Acne vulgaris is one of the most common inflammatory dermatoses and is seen in both hospital settings and in general practice. Multiple factors are involved in the pathophysiology of acne, including an increase in sebum production which influenced by androgens; alteration in the pattern of keratinization within the pilosebaceous follicles resulting in comedone formation, the production of perifollicular inflammation and the proliferation of *Propionibacterium acnes*. Hormonal changes and genetic factors may play a role in the pathogenesis of acne. The pathophysiological acne understanding contributed to usage of new formulation in the treatment of acne. However, there is interest to develop new formulation for the treatment of acne, still acne is a social, medical and inflammatory condition with global impact on families.

#### **Objectives: To**

1. Elaborate an epidemiological characteristics on acne in Kirkuk City.
2. Develop a formulation of erythromycin 3% with salicylic acid 2% versus clindamycin 3% with salicylic acid 2%.
3. Compare the therapeutic effectiveness of the two formulation in the treatment of acne.

#### **Materials and methods**

The study was a case control study and included 175 subjects with acne, of the 98 were female with a mean age of 18 years, and 77 males with mean age of 19.5 years. The acne study conducted in the Department of Dermatology, Azadi Teaching Hospital. All patients were assessed clinically with determination of severity according to Burton grading scale. The patients were divided in to three groups;

Group I: Received topical erythromycin (3%) and salicylic acid (2%) solution.

Group II. Received topical clindamycin (3%) and salicylic acid (2%) solution.

Group III. The control group that received 30% ethyl alcohol (Placebo).

The patients were allocated in the treatment group as sequence of their asking for consultation. Informed consent was taken from each participant before their enrolment in the study. The study was approved by the Tikrit University College of Medicine Ethical Committee and Azadi Teaching Hospital Ethical Committee. All the groups received the

treatment for 6 weeks and they were followed for a month after cessation of the treatment to record relapse.

### **Results**

The overall response in both therapeutic combinations were relatively with equal effect. In the first group, 45.7% of patients were cured and relapse was seen in 14.2% of the patients and no patients develop worse subsequent relapse. In the second group, the cure rate was 47 and relapse recorded in 11.4% with no development of worse course. While in third group none patients cured during the treatment course duration and the worsen clinical status developed in 77.1% of the patients. Mild skin irritation, redness, dryness and itching were developed as adverse effects in 91.4% of patients in the first 5 minutes of drugs application in group A and B. Dryness developed in 20% of the placebo group. However, the treatment was well tolerated in patients receiving active treatments.

### **Conclusion**

Both formulations were effective and safe in the treatment of acne with low rate of relapse.