



ACNE, ROSACEA, AND RELATED DISORDERS (INCLUDING HIDRADENITIS SUPPURATIVA)

## **A STUDY OF THE BACTERIOLOGY OF ACNE AND IN VITRO ANTIBIOTIC SUSCEPTIBILITY PATTERNS OF ORAL AND TOPICAL ANTIBIOTICS TO PROPIONIBACTERIUM ACNES**

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Introduction: Antibiotic therapy in acne has resulted in significant dissemination of cross resistant strains of propionibacterium acnes (P.acnes). Resistance to topical erythromycin, Clindamycin is common but to oral tetracycline and topical benzoyl peroxide is rare. Transmission of antibiotic resistant P.acnes between acne prone individuals is possible, hence stringent infection control measures are necessary.

Objectives: To identify the bacteria causing acne with emphasis on species identification of propionibacterium.

To identify the antibiotic susceptibility of oral and topical antibiotics in acne

Materials and methods: Swabs from acne pustules from 50 patients, aged above 12 years, with moderate to severe acne were obtained and inoculated into selective media for p.acnes, blood agar and Mac Conkey agar for isolation of aerobic organisms, gram staining and species identification of propionibacterium. The isolated bacteria were cultured and evaluated for antibiotic sensitivity using standard disc diffusion techniques. Statistical analysis was done using chi square test, fishers test, bonferroni test and Wilcoxon signed rank test.

Results: Average age of the patients was 20.95 years, 52% were males and 48% females. P.acnes was isolated in 44 (88%) patients. 78% patients had heavy colony count of 4+, 10 had 3+. P.acnes (78%) and P.granulosum(12%) were the commonest organisms, P.avidum (4%), P.propionicum (6%). Among the oral antibiotics doxycycline was the most sensitive(92%), ampicillin (84%), tetracycline (70%). Highest resistance was seen with erythromycin (84%), roxithromycin (76%), azithromycin (60%). Among the topical agents benzoyl peroxide had highest sensitivity (74%), azithromycin (54%), topical clindamycin showed high resistance (82%). Aerobic cultures showed growth of coagulase negative staphylocococcus aureus( 40%), and micrococci (10%).





Conclusion: Antibiotic resistance is common. Oral doxycycline and topical benzoyl peroxide are the most effective . However one should keep in mind that injudicious usage of the same may lead to antibiotic resistant flora. Hence the need to lay down guidelines for antibiotics usage in acne.

