



PRE AND POST-OPERATIVE NEUTROPHIL RESPONSE IN THE ELDERLY

Dr.Shweta

MD., UPGRADED DEPARTMENT OF PHYSIOLOGY, OSMANIA MEDICAL COLLEGE, KOTI, HYDERABAD, TELANGANA

Dr.A.Santa Kumari

MD., (Prof) UPGRADED DEPARTMENT OF PHYSIOLOGY, OSMANIA MEDICAL COLLEGE, KOTI, HYDERABAD, TELANGANA

Dr.Aruna MD

MD., UPGRADED DEPARTMENT OF PHYSIOLOGY, OSMANIA MEDICAL COLLEGE, KOTI, HYDERABAD, TELANGANA

ABSTRACT

Ageing is associated with a decline in many of the human body's functions, including that of the immune system. The negative impact of ageing on immunity is called **IMMUNOSENESCENCE**; where the function of various components of both the innate and acquired immune system is attenuated with important consequences to health and disease. Interestingly, it would appear that the number of neutrophils in circulation is not affected by age, although there is evidence of decreased **PHAGOCYTOSIS** and reduced superoxide production. In addition, surgical stress is forbidding **HOMEOSTASIS**. The goal is to identify the variance in neutrophil count & phagocytosis, as neutrophils are the 1ST LINE OF DEFENCE FOR HOST IMMUNITY

KEYWORDS : Elderly, Neutrophil Count, Phagocytic Activity

MATERIALS & METHODS: Written consent from all participants

STUDY GROUP/ INCLUSION: 30 elderly posted for any Elective Surgery

EXCLUSION: Any Emergency Surgery

CONTROL GROUP: 30 outpatient elderly

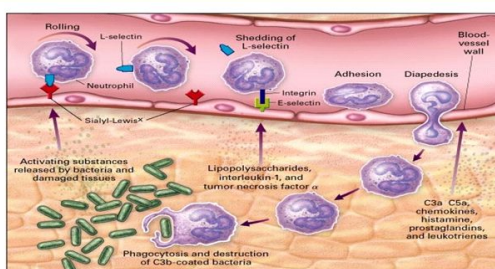
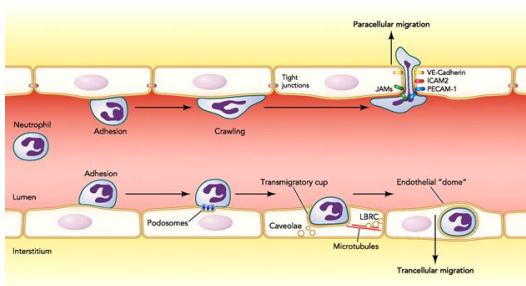
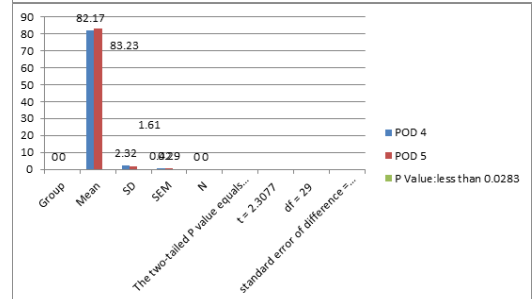
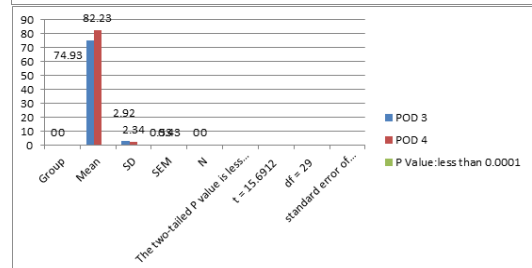
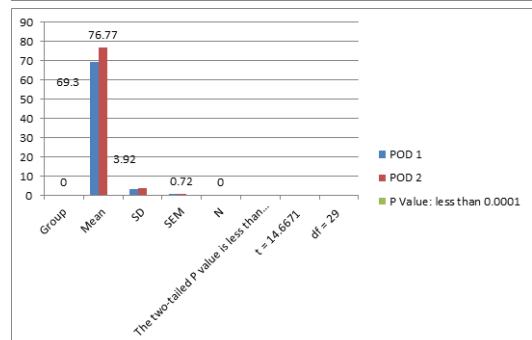
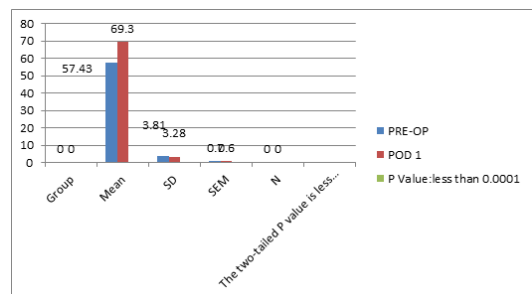
LEUCOCYTE COUNT: DLC-Leishman Staining Technique
Phagocytic activity (*Candida Guilliermondii*): Cultured in glucose broth, Viability attained after 80-90min after incubation.

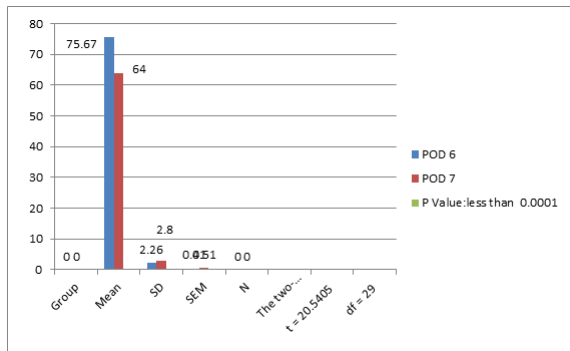
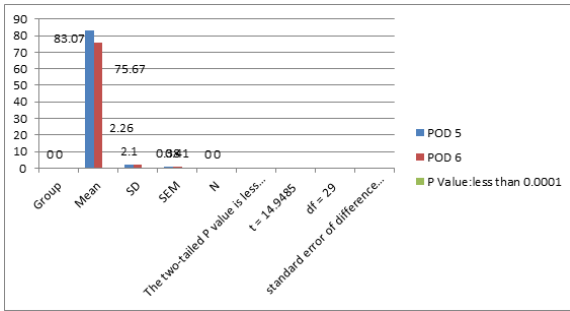
ADVANTAGE: -SURVIVE BETTER -SERUM & WITHIN CELLS
CONTINUE TO STAY -YEAST FORM
STATISTICAL ANALYSIS: Student t test

RESULTS:

NEUTROPHIL: PHAGOCYTIC ACTIVITY: STUDY GROUP

% <i>Candida</i> killed
Pre-Op: 50.1 ± 2.8
Post-Op 1-3: 40.9 ± 1.4
P. Value: < 0.001





CONCLUSION:

1. This study shows decreased phagocytic activity of neutrophil granules to kill Candida (C.guilliermondii) suggesting influence of surgery & stress in the elderly, correlated with Bainton^{1,2}
2. Acute raise in neutrophils in circulation observed in present study in correlation with Miller³
3. Immunosenescence is a complex process involving multiple reorganizational & developmentally regulated changes, rather than simple unidirectional decline of whole function⁴.

'AGEING SEEMS TO BE THE ONLY AVAILABLE WAY TO LIVE A LONG LIFE'. Daniel Auber



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