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## Risk stratification of surgical patients with obesity in Intensive Care Unit: A prospective cohort study

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**Introduction & Objective:** There is a steady increase in prevalence of obesity over last 2-3 decades to the extent of global epidemic. Overall, 25% of world population is reported to be overweight and 10% are obese. According to one report, one in every four individuals in Pakistan is either overweight or obese. The evolutionary origin of obesity points towards survival advantage of obese individuals, but in modern way of living, advantages of obesity are lost and hazardous effects have become more prominent including cardio-metabolic risk factors and some malignancies. There is very scanty information in medical literature about value of fat stores in critically ill patients; therefore the present study objective was to measure the impact of obesity upon mortality rate in patients admitted in surgical Intensive Care Unit.

**Methodology:** This was a prospective cohort study conducted in Intensive Care Unit (ICU) of Aga Khan University Hospital Karachi, Pakistan. All adult patients of both gender of age >16 years were eligible for inclusion in this study. Patients with diagnosis of malignant diseases, those shifted to other hospitals or shifted to ICU of this hospital and patients with ICU stay of <24 hours were excluded from the study group.

**Results:** A prospective data of 260 patients admitted to ICU was gathered on a pro forma designed for the study. The mean age and standard deviation of the study population were found to be  $48.29 \pm 18.97$  years. There were 172 (66.2%) male and 88 (33.8%) females in the study group. Measurement of mid arm circumference 44% of patients were found to be obese. BMI was calculated for all patients; 35% were over-weight and 40% were in obesity class. Ninety percent of the patients were admitted through emergency department and gross ICU mortality was found to be 48.5%. Multivariate logistic regression analysis was performed to identify the risk factors of mortality in ICU patients. The results showed BMI and APACHE score to be statistically independent variables to predict mortality. Mortality rate of overweight patients were found to be low than normal weight or obese patients i.e. 40%, 48% and 56%, respectively. Ischemic heart disease was found to be statistically independent predictor of prolong ICU stay.

**Conclusion:** Overweight could be potentially protective for critically ill patients admitted to ICU as compared to patients in normal weight categories and those in obesity class.

### Biography

Noman Shahzad is a General Surgery Resident at The Aga Khan University Hospital (AKUH) Pakistan. He has recently completed his licensure requirement to practice general surgery in Pakistan. He is also a Member of Royal College of Surgeons of England. He has keen interest in trauma surgery and critical care management and has published in this field.

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