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"The effect of obesity on surgical outcomes in an acute general surgical unit"

Category: Basic science relating to weight loss

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Introduction: Obesity incidence is increasing in Australia, particularly in non-metropolitan areas. The incidence and effect of obesity on outcomes in acute surgical patients are not known.

Aim: To quantify obesity rates amongst Acute Surgical Unit (ASU) patients in a large NSW regional hospital, and compare outcome measures [length of stay (LOS), unplanned return to theatre, readmission within 28 days, ICU admission and mortality].

Methodology: Retrospective cross-sectional study of four months of ASU admissions. Exclusions include age <16, pregnancy, transfer to out-of-area facility and incomplete data. Patients were classified according to WHO waist circumference (WC) definitions as obese ("high risk" WC) or overweight ("at risk" WC). Key outcome measures were compared between non-obese and obese groups.

Results: Of the 695 admissions within the study period, 512 met the inclusion criteria [47.1% female, average age 52.8 (SD22.26)]. Of the sample, 61.5% were classified as obese (71.8% of females and 52.4% of males).

LOS was longer for obese patients (4.95 days v 3.66 days, $p=0.002$). However the mean age of obese patients was greater (56.6 vs 46.9, $p=0.001$) and LOS was longer for those aged ≥ 60 ($p<0.001$). After controlling for age difference by analysing age groups individually, obesity's effect on all outcome measures (apart from ICU LOS) was not significant.

If admitted to ICU, obese patients stayed longer (15.52 days vs 6.77 days, $p<0.001$), even after controlling for age difference.

In this study 85.1% ($p<0.001$) of females and 69.4% ($p=0.166$) of males were categorised as having at least an "at risk" WC. This compares to publicly reported inner regional population rates of 71.0% and 66.4% respectively.

Conclusion: Obesity is overrepresented amongst female ASU patients. In this setting, obesity was associated with a significantly greater LOS in ICU patients. Obesity did not affect other surgical outcomes independent of age.