

CHILDHOOD BODY MASS INDEX AND PERI-OPERATIVE COMPLICATIONS.

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Objective: To describe the incidence of quality assurance events between overweight/obese and normal weight children.

Research Methods and Procedures: This is a retrospective review of the quality assurance database of the Mott Children's Hospital, University of Michigan for the period January 2000 to December 2004. Using directly measured height and weight, we computed the body mass index in 6094 children. Overweight and obesity were defined using age and gender-specific cut off according to the National Center for Health Statistics (NCHS)/Centers for Disease Control and Prevention (CDC) (2000) growth charts. Frequency of quality assurance events were compared between normal weight, overweight and obese children.

Results: There were 3359 males (55.1%) and 2735 females (44.9%). The mean age for the entire population was 11.9 ± 5.2 while the mean BMI was $21.6 \pm 6.7 \text{ kg/m}^2$. The overall prevalence of overweight and obesity was 31.6%. Obesity was more prevalent in boys than girls ($p = 0.016$). Preoperative diagnoses of hypertension, type II diabetes and bronchial asthma were more common in overweight and obese than normal weight children ($p = 0.0001$ for hypertension, $p = 0.001$ for diabetes and $p = 0.014$ for bronchial asthma). Difficult airway, upper airway obstruction in the post anesthesia care unit (PACU) and PACU stay longer than 3hr and need for 2 or more anti-emetics were more common in overweight and obese than normal weight children ($p = 0.001$). There was no significant difference in the incidence of unplanned hospital admission following outpatient surgical procedure between normal weight and overweight/obese children.

Discussion: Studies on peri-operative aspects of childhood overweight and obesity are rare. Our report shows a high prevalence of overweight and obesity in this cohort of pediatric surgical patients. Certain peri-operative morbidities are more common in overweight and obese than in normal weight children. There is a need for prospective studies of the impact of childhood overweight and obesity on anesthetic and surgical outcome.

References:

Ogden et al. 1999-2004. JAMA 295:1549-1555. 2006.
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