1344607 - PREDICTORS OF UNANTICIPATED ADMISSION FOLLOWING AMBULATORY SURGERY

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Introduction: Unanticipated admission to hospital following ambulatory surgery can occur for several reasons, including: medical, surgical, and anesthesia complications(1). These admissions stress the health system and greatly increase the cost of ambulatory surgery(2). The primary objectives of this retrospective case-control study was to evaluate the incidence of, the reasons for and the risk factors for unanticipated hospital admissions in adult patients over a 24-month period, in three tertiary care academic Canadian hospitals, following scheduled ambulatory surgery.

Methods: After obtaining approval from the local Research Ethics Board, from the 20,657 ambulatory procedures performed, adult patients who required admission (case patients) were identified retrospectively and compared to those who underwent ambulatory surgery but did not require admission (control patients). A total of 200 case patients and 200 control patients were randomly selected for and included in our study. Data extracted included: demographic data, reason for admission, type of anesthesia, surgical procedure, length of procedure, ASA classification, time of completion of surgery, pre-anesthesia clinic visit, past medical history, medications (classes), and perioperative complications. The reason for admission was classified according to five main groups: (1) surgical, (2) anesthesia, (3) medical, (4) social/administrative, and (5) miscellaneous. The demographic and medical data were displayed as numbers and percentages for both the admitted and un-admitted groups and the values were compared with an ANOVA or t-test. We used multiple logistic regression to assess factors associated with unanticipated hospital admissions.

Results: The overall incidence of unanticipated admission following scheduled ambulatory surgery was 2.67%. The most common reasons identified for admission were surgical (40%) followed by anesthesia (20%) and medical (19%). Patients having orthopaedic, plastic, dental and ENT surgery were significantly less likely to be admitted in comparison with patients having general surgery. Length of surgery >3 hr (odds ratio [OR] 4.31, 95% CI 2.47-7.54), ASA class 3 (OR 4.54 95% CI 1.18-11.36) and 4 (OR 4.87, 95%CI 1.32-17.93), advanced age [>80 years] (OR 5.27, 95%CI 1.54-18), BMI of 30-35 (OR 2.61, 95% CI 1.24-5.51) were all found to be independently associated with an increased odds of unanticipated admission. Two co-morbid conditions were found to be protective of unanticipated admission: atrial fibrillation (OR 0.32, 95% CI 0.10-0.99) and active smokers (OR 0.55, 95% CI 0.30-0.99); the other co-morbid conditions did not have a significant impact on readmission.

Discussion: Unanticipated admission to hospital after ambulatory surgery is not rare, and it occurs mainly due to surgical, anesthesia and medical complications. The length of surgery >3h, higher ASA class, advanced age and increased BMI are all independent predictors of unanticipated admission following ambulatory surgery. No specific disease process or co-morbid illness was associated with an increased likelihood of unanticipated admission.

References: 1. Ambulatory Surgery 1995 3(3); 141-146
2. Anesth and Analg 1998 87; 816-826