

**TITLE:** PERIOPERATIVE PULMONARY COMPLICATIONS IN EXTREMELY OBESE PATIENTS: NO MAJOR EFFECT ON OUTCOME

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Although morbidly obese patients have a high risk of developing abnormal pulmonary function and perioperative pulmonary complications (PC),<sup>1,2</sup> our recent experience suggests that these problems are minor and do not influence outcomes negatively. We retrospectively studied perioperative events and outcomes of 76 consecutive, extremely obese patients to determine their incidence of PCs and the effect of these PCs on hospital and intensive care stays and total medical care costs.

With institutional approval, we reviewed the medical records of all patients who had surgical procedures with general or regional anesthesia from January, 1987 through September, 1989 and who had a Body Mass Index [BMI: weight (kg)/height (m<sup>2</sup>)] > 50. A BMI > 35 generally defines morbid obesity. We collected demographic, perioperative outcome, and billing data. PCs were defined as one or more of pneumonia treated with antibiotics, bronchospasm requiring bronchodilators, need for mechanical ventilation < 24 hours postoperatively, need for chest physical therapy above routine postoperative care, or retained secretions treated with aerosols. Data were analyzed with X<sup>2</sup> tests, Fisher's exact tests,

and multivariate linear regressions, *p* 0.05 considered significant.

Seventy-six patients (85% female) with BMI > 50 underwent 105 procedures during the study period; of these procedures, 4 were performed with regional anesthetics. Four procedures were performed emergently and 15 others resulted in same-day discharge. Although 70% of those patients were taking medications preoperatively for chronic diseases such as hypertension and diabetes, only 3 were being treated for pulmonary diseases. Ten patients were current smokers. PCs developed in 50% of patients undergoing thoracic or upper abdominal procedures and in 7% of those undergoing other procedures. In patients undergoing similar surgeries, the presence of pulmonary complications did not significantly increase the lengths of hospital or intensive care stays or the overall cost of their medical care. The presence of other perioperative complications [e.g.: superficial wound dehiscences (N=7)] did significantly prolong hospital stays and medical costs. No patient received postoperative epidural analgesia.

Consistent with reports of relatively smaller but still obese patients, our extremely obese patients had high PC rates, particularly those undergoing thoracic or upper abdominal procedures. These PCs, treated with common perioperative pulmonary care, did not prolong or increase significantly the cost of medical care.

#### References

1. *Anaesthesia* 38:840-851, 1983
2. *Br J Anaesth* 53:811-816, 1981

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**Title:** INTRAVENOUS SEDATION AND THE EFFECTS OF ALCOHOL AFTER AMBULATORY SURGERY

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Patients who arrive home several hours after ambulatory surgery sometimes drink alcohol despite being requested not to do so. The extent to which the residual effects of drugs used in ambulatory surgery interact with alcohol, perhaps potentiating its effects, is not known. The purpose of this study was to determine whether a combination of intravenous midazolam and fentanyl would have residual effects that might interact with alcohol consumed four hours after the injection.

Twelve healthy male volunteers (23.0 ± 2.1 yr, 78.5 ± 11.9 kg, 181.2 ± 7.5 cm; mean ± SD) participated in a double-blind, randomized, placebo-controlled cross-over trial. This study was approved by our institutional clinical investigation committee and written consent was obtained from each subject. Subjects were studied 4 times successively with a one week "wash-out" period between trials. Each test day the subjects randomly received by slow intravenous injection either saline or 0.1 mg/kg midazolam followed by 2 µg/kg fentanyl. Four hours after injection and over a 20-min period, the subjects consumed a

beverage that either did or did not contain 0.7 g/kg alcohol. Before and 1, 3, 5, and 7 h after injection (and before and 1 and 3 h after beverage consumption), subjects completed ten psychomotor performance tests and filled out a mood questionnaire, Profile of Mood States (POMS). Repeated measures ANOVA was used to assess the effects of the intravenous injections alone, the effects of alcohol, and the effects of the interaction between the two.

The midazolam/fentanyl drug combination impaired performance on the following tests: divided attention, multiple reaction time, eye-hand coordination, body sway (both anterior-posterior and lateral), action judgment (similar to a driving test), Digit Symbol Substitution Test (DSST), Critical Flicker Fusion and eso/exophoria (all measures, *p* < 0.05). Scores from the Confusion and Fatigue scales of the POMS increased after injection of midazolam and fentanyl, and scores from the Arousal and Vigor scales decreased. The effects of midazolam peaked 1 h after injection, and after 3 h, mood and psychomotor performance approached baseline levels. Mean blood alcohol concentration 1 h after alcohol ingestion was 0.065 ± 0.016% (± SD). (In most states, a motorist with a drug alcohol concentration of 0.1% is driving under the influence of alcohol.) Performance measures adversely affected by alcohol were eye-hand coordination, DSST and eso/exophoria. Confusion scores increased after alcohol ingestion. The effects of alcohol on psychomotor performance and mood were not altered by pretreatment with midazolam and fentanyl. We conclude that the effects of short-acting drugs used in ambulatory surgery have probably dissipated by the time a patient arrives home, and therefore, do not potentiate or interact with alcohol.