

A PROSPECTIVE STUDY ON INADVERTENT POSTOPERATIVE HYPOTHERMIA

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Introduction: Inadvertent postoperative hypothermia (iPH) has been reported to delay discharge from the PACU and contribute to adverse events.

Identification of the Problem: Preliminary focus-group discussions identified iPH continues to occur in spite of active warming techniques (use of perianesthesia warming blankets with intraoperative forced air warming).

Purpose of the Study: We investigated predictors for iPH and the role of iPH in adverse events in the PACU.

Methodology: Perioperative data in a four-month period were collected on 781 adult patients undergoing elective or emergency surgery. Statistical analysis for predictors and adverse events for iPH were conducted with JMP® v9.01, Cary, NC.

Results: The incidence of iPH was 13.7%; with 8% (<95°F) requiring forced air rewarming in the PACU. Multivariate analysis associated Anesthesia Type, Age, Surgery Magnitude, and Total IV Fluids with iPH (AUC = 0.85). iPH was associated with PACU discharge delay but only in 16 of 102 (15.7%) patients who had a >1.8°F (>1°C) decrease in body temperature. However, iPH was not statistically associated with adverse events in the PACU (dysrhythmias requiring intervention (ChiSquare 2.9, P = 0.09); hemodynamic instability requiring intervention (ChiSquare 0.2, P = 0.67); assisted ventilation (ChiSquare 2.8, P = 0.09); or hypoxemia requiring intervention (ChiSquare 0.75, P = 0.39).

Discussion: In this population undergoing aggressive warming techniques, the incidence of iPH was 13.7%. Although, we did not identify an adverse association of iPH with the measured adverse events, we did identify a delay in PACU discharge in 15.7% of patients with iPH.

Conclusions: iPH continues to occur in spite of active warming techniques. With statistical modeling of medical record databases, health care providers can readily identify patient groups at risk for iPH and institute appropriate preventative measures.

Implications for perianesthesia nurses and future research: Nurses in all phases of perianesthesia care should be aware of patients at risk for iPH so that proactive interventions can be utilized; thus, decreasing PACU discharge time, improving PACU nursing efficiency. Research into continuous perianesthesia forced air warming in high-risk groups may be required.