

Quick Shots 5 (cont.)

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EFFECTS OF INTRAOPERATIVE TEMPERATURES ON POSTOPERATIVE INFECTIONS IN INFANTS

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Purpose

Intraoperative hypothermia has been shown to increase the risk of post-operative infectious complications in adults. We sought to characterize whether intraoperative temperatures similarly affect infants and neonates.

Methods

We conducted a single institution retrospective review of patients < 6 months old who underwent general surgical procedures from November 2013 to October 2015 at a free-standing Level I ACS Children's Surgical Center. Data obtained included weight and age at surgery, ASA physiologic status, wound class, case length, blood transfusion within 72 hours of surgery, and administration of prophylactic antibiotics. Intraoperative temperatures were classified as hypothermia ($T < 36^{\circ}\text{C}$), normothermia ($T = 36.0$ to 37.9°C) and hyperthermia ($T > 38^{\circ}\text{C}$). The primary outcome of surgical site infections (SSI) occurring within 30 days after operation was modeled using logistic regression. Extensive model building was not possible due to the small number of events, but adjusted analyses of the effect of hypo- or hyperthermia were performed by including covariates that were significant univariate predictors at a 0.2 level for at least one of the outcomes.

Results

There was a 2.8% SSI rate in all 885 patients and 3.7% SSI rate in 243 newborns. For all patients, bivariate analysis for SSI showed lower operative weight, blood transfusion, higher ASA, longer anesthesia time and hyperthermia were significantly associated with SSI. In multivariate analyses, only hyperthermia (OR 3.5 [1.3, 9.0] $p=0.0109$) and blood transfusion OR 3.6 [1.3, 10.3], $p=0.0160$) were the only risk factors found to be significantly associated with SSI. In newborns, none of the variables, including hypothermia or hyperthermia, was significantly associated with SSI.

Conclusions

In infants, intraoperative hypothermia does not seem to be associated with SSI. In contrast, hyperthermia may confer a higher risk for SSI. The number of newborns in our study may not have allowed us to analyze these relationships fully.