means of a thermal sensory analyser (TSA 2001, Medoc, Israel) before and 40 min after start of a continuous infusion of 0.08 μg/kg/min iv remifentanil or 0.046 μg/kg/min dexametan. Vital parameters were monitored.

**Results and Discussion.**

<table>
<thead>
<tr>
<th></th>
<th>HPPT Sunburn</th>
<th>HPPT control</th>
<th>HPPT Sunburn</th>
<th>HPPT control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>39.6</td>
<td>45.0</td>
<td>41.3</td>
<td>49.1</td>
</tr>
<tr>
<td>Rems</td>
<td>42.3</td>
<td>46.7</td>
<td>47.2</td>
<td>50.8</td>
</tr>
<tr>
<td>Rem-Pl</td>
<td>+2.7</td>
<td>+17.7</td>
<td>+5.9</td>
<td>+1.7</td>
</tr>
</tbody>
</table>

Mean pain thresholds [°C], n = 16

Re–Pl: Remifentanil minus placebo

In normal skin remifentanil increases the HPPT and HPTT equally by 1.7°C compared to placebo, whereas in the sunburn this effect is enhanced by 158% (HPPT) and even by 347% for the HPTT.

**Conclusion.** Remifentanil exerts an enhanced analgesic effect in inflammatory hyperalgesia compared to normal skin.

**References**


**AIC10**

**THORACIC EPIDURAL ANESTHESIA IMPROVES TISSUE OXYGENATION DURING MAJOR ABDOMINAL SURGERY**

B. Kabon,* E. Fleischmann*, S. Kapral* and A. Kurz*

*Washington University, St. Louis, *Vienna University Hospital

**Background and goal:** Intraoperative surgical stress leads to an autonomic response that markedly increases adrenergic nerve activity and plasma catecholamine concentrations. [1] A consequence is peripheral vasodilatation and decreased tissue oxygen partial pressure with subsequent hypoxia of tissue. Tissue hypoxia is associated with an increased incidence of surgical wound infections. [2] Thoracic epidural anesthesia blocks afferent neural stimuli and inhibits efferent sympathetic outflow in response to painful stimuli. [3] Consequently we tested the hypothesis that additional thoracic epidural anesthesia during major abdominal surgery improves tissue perfusion and subcutaneous oxygen tension.

**Methods.** 25 patients were randomly assigned to general- (n=13) or combined general/epidural anesthesia (n=12). Anesthesia technique and fluid management was standardized. Hemodynamic measurements were recorded via pulmonary arterial catheter. Subcutaneous tissue oxygen tension (PsqO2) was measured in the upper arm (LICOX®, GMS Inc., Germany). Nominal data were compared with unpaired, two-tailed t-tests, changes of PsqO2 were analyzed using repeated measures of ANOVA: p < 0.05 was considered statistically significant.

**Results.** Intraoperative tissue oxygen tension was significantly higher during combined anesthesia: 52.3mmHg ± 7.4 versus 43.3mmHg ± 8.3, p = 0.009. Intergroup differences were significant after 75 min.

**Conclusion.** Thoracic epidural anesthesia prevents the decrease of tissue oxygen tension caused by surgical stress and adrenergic vasodilatation during major abdominal surgery. Consequently combined general/epidural anesthesia might prevent postoperative complications, such as wound infections and systemic inflammatory responses.

**References**


**AIC11**

**MAINTAINING NORMOTHERMIA IN INFANTS UNDERGOING MAJOR SURGERY WITH NOVEL COMPUTER-CONTROLLED CIRCULAR WATER WARMING DEVICE (ALLON 2001 SYSTEM WITH THERMOWRAP)**

J. Katz, J. Metzner, R. Steinberg, O. Gelber and M.T. Gal

Pediatric Anesthesia Unit, Schneider Children’s Medical Center of Israel, Petah Tiqwa, Israel

Affiliated to the Tel Aviv University, Sackler Medical School, Tel Aviv, Israel

**Background and Goal of study.** Hypothermia caused by deficient thermoregulation during anesthesia and cold environment are especially difficult to compensate in infants due to their relatively large body surface area and limited thermogenesis. Although normothermia is usually attained by the end of surgery, the deleterious effects of intraoperative hypothermia remains remarkable. The goal of this study was to evaluate the safety and efficacy of a novel microprocessor controlled temperature regulation system, the Allon 2001, in infants undergoing major surgery.