A12 (Poster 6)

BODY TEMPERATURE CHANGES WITH EPIDURAL ANALGESIA AND THE PATIENT'S BODY HABITUS *Ramanathan, S. Anesthesiology, Magee-Womens Hospital, Pittsburgh, PA* Labor epidural analgesia (LEA) may increase the parturient's body temperature (BT). Since heat dissipation depends on patient's body habitus, we studied if the BT rise (tympanic membrane) was related to height, weight, body mass index (BMI), body surface area (BSA) or epidural block to 10 cm duration (E-10cm)in primiparous women witout choriamnionitis receiving LEA. Data from 406 patients were colleced for a quality assurance database. LEA was induced at 3-4 cm dilation with bupivacaine 0.25% followed by bupivacaine 0.125%+fentanyl infusion (2 mcg/ml). BT at LEA initiation baseline, BL) and at 10 cm dilatation were recorded. Patient's BMI and body surface area were calculated. Data were expressed as mean (SD) and the relationship between variables were analyzed using regression analysis at $p < 0.05$. The BT at BL was 36.63 (SD=0.45; range 35.3-38.0) at 10 cm it was 37.02 (SD= 0.64; range 35.2-39.4)deg C ($p=0.000$). The E-10 cm duration was 6.75 hrs (SD= 6.63; range 45 min-11.3 hrs). Height, weight, BSA and BMI and E-10 cm duration were not correlated with BT in the entire study group (Table). Twnety-five patients had a BT >38 deg C at 10 cm in whom only the height was significanly correlated with BT rise ($r=0.56$, $p=0.004$) Data show that temperature rise during epidural analgesia is not related to conventionally used indices of patient body habitus or E-10 cm duration. Severe rises are correlated with height.

	Mean	SD	Correlation coeff (r)	p value
Height (cm)	164.3	6.7	0.07	0.12
Weight (Kg)	81.3	15.63	0.03	0.44
BMI (kg/m2)	30.06	5.12	0.0004	0.99
BSA (m2)	1.92	0.14	-0.08	0.09
E-10 cm (hrs)	6.75	6.63	0.35	0.47

A13 (Poster 7)

AN IONTOPHORETIC EPIDURAL CATHETER: THEORETICAL POSSIBILITIES *Glassenberg, R. Anesthesiology, Northwestern, Chicago, IL* An Iontophoretic Epidural Catheter: Theoretical Possibilities Raymond Glassenberg, Northwestern University **Introduction:** Iontophoresis is a means to deliver drugs to the systemic circulation that does not require intramuscular intravenous or inhalational route. An electric current connected to a drug impregnated patch applied to the skin can drive medication into the blood supply of the dermis. An epidural catheter bearing a current should be able to push local anaesthetics or narcotics a short distance across the dura into the sub-arachanoid space. **Methods:** A wire-bearing epidural catheter imbedded in a gauze sponge was modified to serve as a monopolar (anode) electrode. A mixture of 0.1% lidocaine marked with methylene blue served as a test solution. Dye diffusion versus time and current was measured. **Results:** Drug diffusion is current and time-dependent. (See graph) **Conclusions:** The epidural space could serve as an iontophoretic reservoir for the sub-arachanoid space with the following advantages: (1) Fast onset (2) No need for a test dose to rule out intravascular injection since the concentration would be appropriate for a spinal (3) Allow for a continuous catheter without the fear of arachanoiditis (4) Ability to lower the level by reversing the polarity of the electrode.