

## Miscellaneous

### 3. The effect of regional anesthesia on surgical blood loss and blood transfusion requirements: a metaanalysis

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**Introduction:** The purpose of this metaanalysis is to evaluate the effect of regional anesthesia on surgical blood losses and on the number of patients requiring blood transfusion.

**Methods:** A search of the American National Library of Medicine's PUBMED up to November 12, 2004 was performed. Thirty one studies could be kept for analysis.

**Results:** Regional anesthesia reduced the number of transfused patients for total hip replacement ( $P=0.0009$ ) and spinal fusion ( $P=0.04$ ). A reduction of measured blood loss that did not lead to a reduction in the number of transfused patients was also found for fractured hip surgery ( $P < 0.0001$ ), lumbar disc surgery ( $P=0.01$ ), peripheral vascular surgery ( $P=0.03$ ), retropubic prostatectomy ( $P=0.01$ ), pregnancy termination ( $P=0.0006$ ), cesarean section ( $P < 0.001$ ), breast reconstruction ( $P=0.01$ ), bowel surgery ( $P=0.0008$ ) and tonsillectomy ( $P=0.007$ ).

**Conclusion:** In summary regional anesthesia has a clear and definite effect on surgical blood loss but this effect do not usually lead to a reduction in the number of transfused patients except for patients undergoing total hip replacement and spinal fusion.

### 56. The effect of three caudal epidural injections of triamcinolon 20 mg on the blood concentration of glucose, ACTH and cortisol in the elderly women

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**Background:** Epidural steroid injection (ESI) has been used widely for the treatment of back pain and radiating extremity pain. Its effects on the metabolic and endocrine system have been studied but the effects following repeated injections are undetermined. We studied the effects of three repeated caudal epidural injections of low dose triamcinolone.

**Methods:** The subjects were 10 elderly women with spinal stenosis. Caudal epidural injections were performed biweekly. The injectate used for ESI was triamcinolone 20 mg mixed with 0.25% lidocaine 15 ml. The procedures were performed in prone position. Blood sampling was done just before the first injection as baseline and then, at the day of 2 weeks, 4 weeks just before second and third injection, and at 2 weeks after the third injection.

**Results:** Blood glucose concentration did not showed significant changes. Blood concentration of cortisol and ACTH were significantly decreased after second injection but there were no further decrease at each repeated injections. The cortisol concentration were maintained within the normal range.

**Table 1. Changes of Blood Concentrations of Glucose, Cortisol and ACTH**

	Baseline	2 wks	4 wks	6 wks
Glucose (mg/dl)	145.3 ± 27.1	135.5 ± 22.3	122.6 ± 22.3	124.3 ± 17.0
Cortisol (μg/dl)	10.2 ± 3.7	7.2 ± 1.9	4.2 ± 0.8* <sup>565</sup>	5.6 ± 2.2
ACTH (pg/ml)	15.1 ± 8.8	8.3 ± 5.5	7.5 ± 4.2*	7.7 ± 5.3

Data are expressed as mean ± SD.

\*:  $P < 0.05$ , compared with baseline.

\*<sup>565</sup>:  $P < 0.05$ , compared with 2 weeks. There were no significant differences in glucose.

**Conclusions:** Caudal, epidural injections with low dose triamcinolone suppressed HPA (Hypothalamus-pituitary-adrenal) axis but there was no further suppression following the repeated injections. Three consecuted caudal injections at 2 weeks interval seem to be a safe procedure.