ABSTRACTS

EPIDURAL LIDOCAINE DECREASES SEVOFLURANE REQUIREMENT FOR ADEQUATE DEPTH OF ANAESTHESIA AS MEASURED BY THE BISPECTRAL INDEX MONITOR

ANESTHESIOLOGY, vol 94, iss 5, p 799-803, yr 2001

RESULTS: The MACBIS5O of sevoflurane (0.59% end tidal) was significantly decreased with lidocaine epidural anesthesia compared with general anesthesia alone (0.92%) or with intravenous lidocaine (1%; P < 0.0001). Plasma lidocaine concentrations in the intravenous lidocaine group (1.9 micrograms/mi) were similar to those in the epidural lidocaine group (2.0 micrograms/ml).

CONCLUSIONS: Epidural anesthesia reduced by 34% the sevoflurane required for adequate depth of anesthesia. This effect was not a result of systemic lidocaine absorbtion, but may have been caused by deafferentation by epidural anesthesia or direct rostral spread of local anesthetic within the cerebrospinal fluid. Lower-than-expected concentrations of volatile agents may be sufficient during combined epidural-general anesthesia.

DOSE-RESPONSE RELATIONSHIP AND INFUSION REQUIREMENT OF CISATRACURIUM BESYLATE IN INFANTS AND CHILDREN DURING NITROUS OXIDE-NARCOTIC ANESTHESIA

ANESTHESIOLOGY, vol 94, iss 5, p 790-792, yr 2001

RESULTS: Least-squares linear regression analysis of the log-probit transformation of dose and maximal response yielded median effective dose (P050) and 95% effective dose (ED95) values for infants (29 +7- 3 micrograms/kg and 43 -~ - 9 micrograms/kg, respectively) that were similar to those for children (29 +/- 2 micrograms/kg and 47 ÷/- 7 micrograms/kg, respectively) . The mean infusion rate necessary to maintain 90-99% neuromuscular block during the first hour in infants (1.9 +7- 0.4 micrograzns.kg-1.min-1; range: 1.3-2.5 micrograms.kg-l.min-l) was similar to that in children (2.0 +/- 0.5 micrograms.kg-l.min-l; range: 1.3-2.9 micrograms.kg-1 .min-1).

CONCLUSION: The authors conclude that cisatracurium is equipotent in infants and children when dose is referenced to body weight during balanced anesthesia.

THE MIDLATENCY AUDITORY EVOKED POTENTIALS PREDICT RESPONSIVENESS TO VERBAL COMMANDS IN PATIENTS EMERGING FROM ANESTHESIA WITH XENON, ISOFLURANE, AND SEVOFLURANE BUT NOT WITH NITROUS OXIDE

ANESTHESIOLOGY, vol 94, iss 5, p 782-789, yr 2001

RESULTS: Thirteen patients were excluded because of technical reasons. The preanesthetic MLAEP showed a periodic waveform, where the Na-Pa-Nb complex was the most prominent component contributing to the high energy around 29-39 Hz in the power spectrum. Emergence from xenon, isoflurane, and sevoflurane anesthesia produced similar changes in the MLAEP. The spectral power for the frequency 29 Hz or greater was severely suppressed at 0.8 MAC but significantly recovered between the concentration only 0.1 MAC higher that permitting the first response to command and that associated with the first response. In contrast, N20 hardly affected the MLAEP5, even at the concentrations producing unresponsiveness. Two patients did not lose responsiveness even at the highes' concentration tested (70%)

CONCLUSIONS: The MLAEP is closely associated with responsiveness to verbal command during emergence from anesthesia with xenon, isoflurane, and sevoflurane but not with N20.

DOSE-RESPONSE STUDY OF EPIDURAL ROPIVACAINE FOR LABOR ANALGESIA

ANESTHESIOLOGY, vol 94, iss 5, p 767-772, yr 2001

RESULTS: The ED5O (median effective dose) obtained based on the maximum likelihood estimation was 18.4 mg (95% confidence interval, 13.4-25.4 mg). Time to onset of analgesia, duration of analgesia, time to two-segment regression of sensory block level, and incidence of motor block were not affected by the dosage of ropivacaine administered (P = 0.93, 0.12, 0.55, and 0.39, respectively). However, the upper level of sensory block was dose-related (P < 0.01).

CONCLUSION: In a traditional dose-response study, the ED5O of ropivacaine required to initiate epidural analgesia in early labor was found to be 18.4 mg (95% confidence interval, 13.4-25.4 mg).

MINIMUM ANALGESIC DOSE OF EPIDURAL SUFENTANIL FOR FIRST-STAGE LABOR ANALGESIA: A COMPARISON BETWEEN SPONTANEOUS AND PROSTAGLANDIN-INDUCED LABORS IN NULLIPAROUS WOMEN

ANESTHESIOLOGY, vol 94, iss 5, p 740-744, yr 2001

METHODS: Seventy healthy, nulliparous women, at more than 37 weeks' gestation with cervical dilatation from 2 to 4 cm, requesting epidural pain relief in labor were enrolled. The subjects were assigned to two different groups according to whether labor was spontaneous or induced with dinoprostone 0.5 mg. Parturients received 10 ml of the study solution through a lumbar epidural catheter. The initial dose was sufentanil 25 micrograms, and subsequent doses were determined by the response of the previous patient in the same group using up-down sequential allocation. The analgesic effectiveness was assessed using 100-mm visual analog pain scores. The up-down sequences were analyzed using the method of independent paired reversals and probit regression.

RESULTS: The minimum analgesic dose of sufentanil in spontaneous labor was 22.2 micrograms (95% CI: 19.6, 22.8) and 27.3 micrograms (95% CI: 23.8, 30.9) in induced labor. The minimum analgesic dose of sufentanil in induced labor was significantly greater (P = 0.0014) than that in spontaneous labor (95% CI difference: 2.9, 9.3) by a factor of 1.3 (95% CI: 1.1, 1.5).

CONCLUSION: Prostaglandin induction of labor produces a significantly greater analgesic requirement than does spontaneous labor.

KETOROLAC IS NOT NEPHROTOXIC IN CONNECTION WITH SEVOFLURANE ANESTHESIA IN PATIENTS UNDERGOING BREAST SURGERY

ANESTH ANALG, vol 92, iss 4, p 1058-1063, yr 2001

Ketorolac, which may cause renal vasoconstriction by cyclooxygenase inhibition, is often administered to patients anesthetized with sevoflurane that is metabolized to inorganic fluoride (F-), another potential nephrotoxin. We assessed this possible interaction using urine N-acetyl-beta-D-glucosaminidase indexed to urinary creatinine (U-NAG/crea) as a marker of proximal tubular, beta2-microglobulin as a tubular, urine oxygen tension (PuO2) as a medullary, and erythropoietin as a marker of tubulointerstitial damage. Thirty women (ASA physical status I-II) undergoing breast surgery were included in our double-blinded

study. They were allocated into two groups receiving either ketorolac 30 mg IM (Group K) or saline (Group C) at the time of premedication, at the end of, and 6 h after anesthesia maintained with sevoflurane. Urine output, U-NAG/crea, Pu02, serum creatinine, urea, and F- were assessed. Blood loss was larger in Group K (465 +/- 286 mL vs 240 + - 149 rnL, mean +/- SD, P < 0.05). The MAC-doses of sevoflurane were similar. U-NAG crea increased during the first 2 h of anesthesia and serum Fpeaked 2 h after the anesthesia without differences between the groups. There were no statistically significant changes in Pu02, erythropoietin, beta2-microglobulin, serum creatinine, urea, or urine output during anesthesia or the recovery period in either group. Our results indicate that the kidneys are not affected by ketorolac administered in connection with sevoflurane anesthesia.

THE CLINICAL USE OF SMALL-DOSE TETRACAINE SPINAL ANESTHESIA FOR TRANSURETHRAL PROSTATECTOMY

ANESTH ANALG, vol 92, iss 4, p 1020-1023, yr 2001

In a double-blinded study, we compared conventional dose tetracaine (8 mg), small-dose tetracaine (4 mg) with added fentanyl and epinephrine, and small-dose tetracaine (4 mg) with added fentanyl subarachnoid anesthesia. Forty—five patients scheduled for transurethral resection of prostate (TURP) under subarachnoid anesthesia were randomly assigned to Group 1 (8 mg hyperbaric tetracaine), Group 2 (4 mg hyperbaric tetracaine, 10 micrograms fentanyl, and 0.2 mg epinephrine), and Group 3 (4 mg hyperbaric tetracaine, 10 micrograms fentanyl, and 0.2 mL saline). Evaluations were performed after spinal anesthesia. Subarachnoid block was successful in all patients except one in Group 1, who required general anesthesia by mask. The median peak sensory levels 10 mm after the induction of spinal anesthesia in Group 1 was T8, which was significantly higher than Group 2 and Group 3 (P < 0.05). The time of sensory and motor recovery in Group 3 was less than in Groups 1 and 2 (P < 0.05). Hypo tension was observed in four patients in Group 1 and none in Groups 2 and 3. We conclude that small-dose 4-mg hyperbaric tetracaine plus 10 micrograms fentanyl might provide adequate anesthesia and fewer side effects for TURF when compared with the conventional (8 mg) dose.

THE EFFECTS OF THORACIC EPIDURAL ANALGESIA WITH BUPIVACAINE 0.25% ON VENTILATORY MECHANICS IN PATIENTS WITH SEVERE CHRONIC OBSTRUCTIVE PULMONARY DISEASE

ANESTH ANALG, vol 92, iss 4, p 1015-1019, yr 2001

Optimal analgesia is important after thoracotomy in pulmonary-limited patients to avoid pain-related pulmonary complications. Thoracic epidural anesthesia (TEA) can provide excellent pain relief. However, potential paralysis of respiratory muscles and changes in bronchial tone might be unfavorable in patients with end-stage chronic obstructive pulmonary disease (COPD). Therefore, we evaluated the effect of TEA on maximal inspiratory pressure, pattern of breathing, ventilatory mechanics, and gas exchange in end-stage COPD patients. Pulmonary resistance, work of breathing, dynamic intrinsic positive end-expiratory pressure, and peak inspiratory and expiratory flow rates were evaluated by assessing esophageal pressure and airflow. An increase in minute ventilation (7.50 +7- 2.60 vs 8.70 +7- 2.10 L/min; P 0.04) by means of increased tidal volume (0.46 +7- 0.16 vs 0.53 0.14 L/breath; P = 0.003) was detected after TEA. These changes were accompanied by an increase in peak inspiratory flow rate (0.48 +7- 0.17 vs 0.55 +7- 0.14 LIs; P = 0.02) and a decrease in pulmonary resistance (20.7 +/- 9.9 vs 16.6 + - 8.1 cm H2O.L-1.s-l; P = 0.02). Peak expiratory flow rate, dynamic intrinsic positive end-expira tory pressure, work of breathing, PaO2, and maximal inspiratory pressure were unchanged (all P > 0.50). We conclude that TEA with bupivacaine 0.25% can be used safely in end-stage COPD patients.

THE EFFECT OF INTRAVENOUS KETOROLAC ON OPIOID REQUIREMENT AND PAIN AFTER CESAREAN DELIVERY

ANESTH ANALG, vol 92, iss 4, p 1010-1014, yr 2001

Nonsteroidal anti-inflammatory drugs, including ketorolac, are widely used for postoperative analgesia. This randomized, double-blinded trial compared IV ketorolac or saline combined with meperidine patient-controlled epidural analgesia (PCEA) after cesarean delivery.

Fifty healthy parturients scheduled for elective cesarean delivery under combined spinal-epidural anesthesia received PCEA plus either IV ketorolac (Group K) or saline (Group C) for 24 h. The ketorolac dose was modified, after six patients had been studied, based on new product information recommending a maximum of 120 mg ketorolac over 24 h.

Group K (n = 24) and Group C (n = 20) were demographically similar. During the first 24 h, Group K used significantly less meperidine (P < 0.05). Postoperative pain at rest and with movement, and patient satisfaction, did not differ significantly between groups, except that worst pain at 12 h was less in Group K (P < 0.005). The two groups were similar with respect to patient recovery and side effects.

IV ketorolac, as an adjunct to PCEA after cesarean delivery, produced a meperidine dose-sparing effect of approximately 30%, but did not significantly improve pain relief, reduce opioid-rela ted side effects, or change patient outcome.

A LACK OF EVIDENCE OF SUPERIORITY OF PROPOFOL VERSUS MIDAZOLAM FOR SEDATION IN MECHANICALLY VENTILATED CRITICALLY ILL PATIENTS: A QUALITATIVE AND QUANTITATIVE SYSTEMATIC REVIEW

ANESTH ANALG, vol 92, iss 4, p 9 75-983, yr 2001

Propofol and midazolam are often used for sedation in the intensive care unit. The aim of this systematic review was to estimate the efficacy and harm of propofol versus midazolam in mechanically ventilated patients. A systematic search (Medline, Cochrane Library, Embase, bibliographies), any language, up to June 1999 was performed for reports of randomized comparisons of propofol with midazolam. Data from 27 trials (1624 adults) were analyzed. The average duration of sedation varied between 4 and 339 h. In 10 trials, the duration of adequate sedation was longer with propofol (weighted mean difference 2.9 h; 95% confidence interval [CI], 0.2-5.6 h). In 13 trials (mostly postoperative), sedation lasted 4 to 35 h; in 9 of those, average weaning time from mechanical ventilation with propofol was 0.8-4.3 h; with midazolam it was 1.5-7.2 h (weighted mean difference 2.2 h [95% CI, 0.8 to 3.7 h]). In S trials, sedation lasted 54 to 339 h; there was a lack of evidence for difference in weaning times. Arterial hypotension (relative risk 2.5 [95% CI, 1.3 to 4.5]; number-needed-to-treat, 12), and hypertriglyceridemma (relative risk 12.1 [95%CI, 2.9 to 49.7]; number-needed-to-treat, 6) occurred more often with propofol. The duration of adequate sedation time is longer with propofol compared with midazolam. In postoperative patients with sedation <36 h, weaning is faster with propofol.

THE EFFECTS OF SEVOFLURANE AND HALOTHANE ANESTHESIA ON CEREBRAL BLOOD FLOW VELOCITY IN CHILDREN

ANESTH ANALG, vol 92, iss 4, p 891 -896, yr 2001

We compared cerebral blood flow velocity during anesthesia with sevoflurane and halothane in 23 children admitted for elective surgery (age, 0.4-9.7 yr.; median age, 1.9 yr; ASA physical status I-II). Inhaled induction was performed in a randomized sequence with sevoflurane or halothane. Under steady-state conditions, cerebral blood flow velocity (systolic [Vs], mean [V/mn], and diastolic [VD]) were measured by a blinded investigator using transcranial pulsed Doppler ultrasonography. The anesthetic was then changed. CBFV measurements were repeated after washout of the first anesthetic and after steady-state of the second (equivalent minimal alveolar concentration to first anesthetic) . The resistance index

was calculated. VD and Vmn were significantly lower during sevoflurane (Vmn 1.35 m7s) than during halothane (Vmn 1.50 m/s; P = 0.001), whereas Vs was unchanged. The resistance index was lower during halothane (P < 0.001). Our results indicate lower vessel resistance and higher mean velocity during halothane than during sevoflurane.

VOLUVEN, A LOWER SUBSTITUTED NOVEL HYDROXYETHYL STARCH (HES 13070.4), CAUSES FEWER EFFECTS ON COAGULATION IN MAJOR ORTHOPEDIC SURGERY THAN HES 20070.5

ANESTH ANALG, vol 92, iss 4, p 855-862, yr 2001

Hydroxyethyl starch (HES) solutions are effective plasma volume expanders. Impairment of coagulation occurs with large HES volumes infused perioperatively. Therefore, a lower substituted novel HES (Voluven; Fresenius.Kabi, Bad Homburg, Germany) was developed to minimize hemostatic interactions, and was compared with HAES-steril (Fresenius Kabi) (pentastarch) regarding safety and efficacy. We performed a prospective, randomized, double-blinded study in 100 major orthopedic surgery patients. Because the 95% confidence interval (-330 mL; +284 mL) for the treatment contrast Voluven-HAES-steril was entirely included in the prede fined equivalence range (+7- 500 mL), comparable efficacy was established. Voluven interfered significantly less than HAES-steril with coagulation factor VIII levels and partial thromboplastin time postoperatively. Total amounts of red blood cells transfused were comparable between the Voluven and HAES-steril groups, but a significantly reduced need for homologous red blood cells was observed in the Voluven group. We conclude that in large-blood-loss surgery, Voluven has a comparable efficacy with HAES-steril and may reduce coagulation impairment, possibly leading to a smaller number of allogeneic blood transfusions.

THORACIC EPIDURAL ANESTHESIA COMBINED WITH GENERAL ANESTHESIA: THE PREFERRED ANESTHETIC TECHNIQUE FOR THORACIC SURGERY

ANESTH ANALG, vol 92, iss 4, p 848-854, yr 2001

Thoracic epidural anesthesia (TEA) combined with general anesthesia (GA) as well as total-IV anesthesia (TIVA) are both established anesthetic managements for thoracic surgery. We compared them with respect to hypoxic pulmonary vasoconstriction, shunt fraction and oxygenation during one-lung ventilation. Fifty patients, ASA physical status II-III undergoing pulmonary resection were randomly allocated to two groups. In the TIVA group, anesthesia was maintained with propofol and fentanyl. In the TEA group, anesthesia was maintained with TEA (bupivacaine 0.5%) combined with low-dose concentration 0.3-0.5 vol% of isoflurane (end-tidal). Changing from two-lung ventilation to one-lung ventilation caused a significant increase in cardiac output' (CO) in the TIVA group, whereas no change was observed in the TEA group. One-lung ventilation caused significant increases in shunt fraction in both groups which was associated per definition with a significant decrease in Pa02 in both groups but Pa02 remained significantly increased in the TEA group (P < 0.05). We conclude that both anesthetic regimens are safe intraoperatively. However, TEA in combination with GA did not impair arterial oxygenation to the same extent as TIVA, which might be a result of the changes in CO. Therefore, patients with preexisting cardiopulmonary disease and impaired oxygenation before one-lung ventilation might benefit from TEA combined with GA.

THE EFFECT OF INSULIN CARDIOPLEGIA ON A TRIAL FIBRILLATION AFTER HIGH-RISK CORONARY BYPASS SURGERY: A DOUBLE-BLINDED, RANDOMIZED, CONTROLLED TRIAL

ANESTH ANALG, vol 92, iss 4, p 810-816, yr 2001

Atrial fibrillation after coronary bypass (CABG) surgery is an important cause of morbidity and increased resource utilization. Insulin-enhanced cardioplegia may reduce postoperative arrhythmias by improving aerobic myocardial metabolism and mitigating the deleterious effects of ischemia. We performed a double-blinded, randomized, controlled clinical trial to determine if insulin-enhanced cardioplegia decreases the risk of post-CABG a trial fibrillation in a high-risk patient population. We randomized 501 patients undergoing urgent CABG to receive insulin-enhanced (Humulin R 10 IUIL, Insulin group, n = 243) or standard (Control group, n 258) blood cardioplegia during cardiopulmonary bypass. Patients were monitored by using continuous electrocardiography for a minimum of 3 days postoperatively. All standard cardiac medications, including beta-adrenergic blockers, were continued postoperatively. Insulin-enhanced cardioplegia did not result in a significant reduction in postoperative a trial fibrillation. Furthermore, we failed to detect a difference in the incidence of conduction defects, ventricular tachycardia, or pacemaker requirements between insulin and placebo patients. Atrial fibrillation was the most common arrhythmia, occurring in 31% of all patients. Independent predictors of a trial fibrillation were elderly age, preoperative a trial fibrillation, and renal insufficiency. Right bundle branch block was the most common conduction abnormality. Predictors of right bundle branch block were elderly age, female sex, and circumflex coronary artery disease. The incidence of postoperative ventricular tachycardia, left bundle branch block, and permanent pacemaker requirement was small. We conclude that insulin-enhanced cardioplegia does not reduce the incidence of postoperative a trial fibrillation in high-risk CABG patients.

PATIENT-CONTROLLED ANALGESIA AND POSTOPERATIVE NAUSEA AND VOMITING: EFFICACY OF A CONTINUOUS INFUSION OF ONDANSETRON

ANAESTHESIA, vol 56, iss 4, p 365-369, yr 2001

A continuous infusion of ondansetron was compared with a placebo infusion in 80 patients undergoing major breast reconstructive surgery. All patients received a standard anaesthetic and a bolus dose of ondansetron after induction. They were then randomly allocated to receive an intravenous infusion of ondansetron or a placebo infusion for 24 h in a double-blind fashion. Postoperative analgesia was provided by patient-controlled subcutaneous diamorphine. In the ondansetron group, the severity of nausea, measured by a 10-point verbal rating scale, was reduced (p = 0.01) and fewer patients stated at postoperative interview that nausea and vomiting was a problem (p = 0.01).

INCIDENCE OF DIAPHRAGMATIC PARALYSIS FOLLOWING SUPRACLAVICULAR BRACHIAL PLEXUS BLOCK AND ITS EFFECT ON PULMONARY FUNCTION

ANAESTHESIA, vol 56, iss 4, p 352-356, yr 2001

Thirty unpremedica ted ASA physical status 1-3 patients aged between 18 and 69 years, scheduled for upper limb surgery, received a conventional supraclavicular brachial plexus block using a nerve stimulator and bupivacaine 0.375% 0.5 ml.kg-1. Spirometric measurements of pulmonary function and ultrasonographic assessments of diaphragmatic function were made before the block and at 10-mm intervals after injection until full motor block of the brachial plexus had developed. Complete paralysis of the ipsilateral hernidiaphraqm occurred in 50% of patients. Seventeen per cent of patients had reduced diaphragmatic movement and the rest (33%) had no change in diaphragma tic movement. Those with complete paralysis all showed significant decreases in pulmonary function, whereas those with reduced or normal movement had minimal change. All patients remained asymptoma tic throughout, with normal oxygen saturation on room air.

A CASE OF EXTENSIVE BLOCK WITH THE COMBINED SPINAL -EPIDURAL TECHNIQUE DURING LABOUR

ANAESTHESIA, vol 56, iss 4, p 34 6-349, yr 2001

The increasing use of combined spinal-epidural analgesia in obstetric practice has arisen from a desire to achieve a rapid

onset of analgesia while reducing the intensity of the motor block. Although the procedure has an excellent safety profile, as with any technique there are potential problems. Difficulty in assessing the position of the epidural catheter after establishment of the spinal blockade may lead to an abnormally extensive block when a full-strength local anaesthetic solution is used. We present a case in which the use of 0.5% bupivacaine to top-up the epidural component of a combined spinal-epidural resulted in a total spinal block. The possible causes of this complication are discussed.

POSTOPERATIVE RESIDUAL BLOCK AFTER INTERMEDIATE-ACTING NEUROMUSCULAR BLOCKING DRUGS

ANAESTHESIA, vol 56, iss 4, p 312-318, yr 2001

The frequency and duration of postoperative residual neuromuscular block on arrival of 150 patients in the recovery ward following the use of vecuronium (n = 50), atracurium (n = 50) and rocuronium (n = 50) were recorded. Residual block was defined as a train-of-four ratio of <0.8. An additional group of 10 patients received no neuromuscular blocking drugs during anaesthesia. The incidence of postoperative residual neuromuscular block was 64%, 52% and 39% after the use of vecuronium, atracurium and rocuronium, respectively. Similar numbers of patients were not able 'to maintain a sustained head or leg lift for 5 s on arrival in the recovery ward. The mean [range] times to attaining a train-of-four ratio of > or = 0.8 after arrival in the recovery ward were 9.2 [1-61], 6.9 [1-24] and 14.7 [1.5-83] mm for vecuronium, atracurium and rocuronium, respectively. None of the 10 patients who did not receive neuromuscular blocking drugs had train-of-four ratios <0.8 on arrival in the recovery ward. It is concluded that a large proportion of patients arrive in the recovery ward with a train-of-four ratio <0.8, even with the use of intermediate-acting neuromuscular blocking drugs. Although the residual block is relatively short lasting, it may occasionally be prolonged, requiring close observation and monitoring of such patients in the recovery ward.

COMPARISON OF SEVOFLURANE-NITROUS OXIDE ANAESTHESIA WITH THE CONVENTIONAL INTRAVENOUS-INHALATIONAL TECHNIQUE USING BISPECTRAL INDEX MONITORING

ANAESTHESIA, vol 56, iss 4, p 302-308, yr 2001

Ninety-one patients were randomly allocated to one of two groups. Group A was induced with a single vital capacity breath of 6% (end-tidal) sevoflurane in nitrous oxide-oxygen (2:1 l.min-1), whereas group B was induced with intravenous fentanyl 1 microgram.kg-1 + propofol 2 mg.kg-1 followed by nitrous oxide-oxygen (2:1 l.min-1) and sevoflurane. Induction was considered to have been achieved when the bispectral index value decreased to below 70. Mean induction time in group A (95.2 s, 95% CI 88.5-101.9 s) was longer than group P (70.3 s, 95% CI 66.3-74.3 s; p < 0.0001). Mild coughing was more common in group A, but relative hypotension was more common in group B. There was no difference in the emergence times. Thirty minutes after emergence, there was no difference in the incidence of adverse effects, with the exception of essentially mild abdominal pain which was more frequent in group A.

POSTAL SURVEY OF CUFFED OR UNCUFFED TRACHEAL TUBES USED FOR PAEDIATRIC TRACHEAL INTUBATION

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A postal survey of the use of cuffed or uncuffcd tracheal tubes for tracheal intubation in children and infants was performed to investigate the criteria used for deciding the choice of tube and the manner of inflating the cuff in the case of use of a cuffed tracheal tube (~1T). From 20() questionnaires despatchcd, replies were received from 130 paediatric anaesthesiologists (response rate 65%). In paediatric practice, the CTT was routinely used by 25% of respondents for more than 80% ~f their patients, while more that 37% of respondents use them in less than 20% of thc cases. Thc three main criteria used for inflating a cuff were: *(1)* the presence of a leak, (ii) the type of surgery associated with the presence of a leak and (iii) the patient's age associated with the type of surgery and the presence of a leak. These criteria were specified, respectively, by 32%, 24% and 18% of the respondents. The cuff was inflated in response to a leak in 18% of the cases and as a response to a pressure manometer in 15% of the cases. Few ρaediatric anaesthesiologists use a cuffed tracheal tube routinely for tracheal intubation in children, and fewer actually use a pressure monitoring device, while it is suggested that the cuff pressure should be monitored in case of CTT. SOURCE: Paediatric Anaesthesia 2001 11:277-281

THE PRONE POSITION IS ASSOCIATED WITH A DECREASE IN RESPIRATORY SYSTEM COMPLIANCE IN HEALTHY ANAESTHETIZED INFANTS ROBIN C. COX , ALASTAIR, EWEN AND BEVIN B. BART

Ten healthy (ASA I or II) anaesthetized infants undergoing clubfoot surgery were studied. General anaesthesia included rocuronium, nitrous oxide and isoflurane. Volume controlled ventilation (12 ml-kg') was delivered via a coaxial Mapleson-D (Bain) system and a Datex AS/3 ventilator. Pulmonary mechanics were measured sequentially in the supine and prone positions using a Bicore CP-100 pulmonary function monitor. Subjects had a mean age of 6 (* 2) months and a mean weight of 8.3 (± 1.4) kg. Dynamic compliance (CDYN) and, static compliance (CSTAT) were both significantly lower in the prone position than in the supine position (P <0.0005). Mean CDYN decreased from 14.9 ± 4.9 ml~cmH_2O' (supine) to 11.6 ± 3.5 ml~cniH_2O ' (prone). Mean CSTAT decreased from 10.2 ± 2.8 ml~cmH_2O' (supine) to 8.9 ± 23 mlcmH_2O-1 (prone). No clinically significant differences in gas exchange were noted, however, on repositioning. **Paediatric Anaesthesia** 2001 11:291-296

PROPOFOL/REMIFENTANIL VERSUS PROPOFOL ALONE FOR BONE MARROW ASPIRATION IN PAEDIATRIC HAEMATO-ONCOLOGICAL PATIENTS. I. Keidan, H. Berkenstadt, A. Sidi and A. Perel

RESULTS: The total amount of propofol required to prevent patient movement was lower in the PR group. The time interval to eye opening and to home readiness was significantly lower in the PR group. Adverse respiratory events (RR < 10-min-1 or SpO2 < 90%) occurred significantly more in the propofol/remifentanil group.

Conclusions: The addition of remifentanil improved the conditions during the procedure and reduced the total amount of propofol, as well as the time to home readiness. However, the addition of remifentanil is associated with an increased risk of respiratory depression. **Paediatric Anaesthesia** 2001 11:297-301

SOLUBLE P-SELECTIN AND THE POSTOPERATIVE COURSE FOLLOWING CARDIOPULMONARY BYPASS IN CHILDREN

D. Lotan MD, T. Prince MD, O. Dagan MD, N. Keller MD, R.Ben-Abraham Md, A.Weinbroum MD, A. Gaby MD, A. Augarten MD, A. Smolinski MD, Z. Barzilay MD, and G. Paret MD.

BACKGROUNDS: Cytokine-inducible leucocyte-endothelial adhesion molecules were shown to affect the postoperative inflammatory response following cardiopulmonary bypass (CPB). Soluble P-selectin (sP-selection) is one of these molecules: We investigated the correlation between plasma sP-selectin levels and the intra and postoperative course in children undergoing CPB.

Conclusions: A relation between CPB-induced mediators and both early and late clinical effects is suggested. The up-regulation and expression of sP-selectin indicate neutrophil activation as a possible mechanism for the increase, and inhibiting it may reduce the inflammatory response associated with CPB. Source: Paediatric Anaesthesia 2001 11:303-308