SECTION 4 : GENERAL

Abstracts

A COMPARISON OF PATIENT- CONTROLLED ANALGESIA FENTANYL AND ALFENTANIL FOR LABOUR ANALGESIA

Result: Mean VAPS from 7-10 cm cervical dilatation were higher in Group A than in Group F (85.7 + /-13.9 vs 64.6 + / - 12.1; P< 0.01) . There were no inter-group difference in VAPS from 1-3 cm , or from 4-6 cm dilatation, in meternal sedation scores or in neonatal out comes.

Conclusion: In the doses prescribed in this study, PCA fentanyl was found to provide more effective analgesia in late first stage labour than PCA al fentanil. CAN J ANAESTH, VOL 47, ISS 2, p 113-119, yr 2000

RESIDUAL CURARIZATION IN THE RECOVERY ROOM AFTER VECURONIUM

We have investigation residual block after anaesthesia which included the use of the neuromusclar blocking agent vecurinium but no anticholinesterase, in 568 consecutive

Patient on admission to the recovery room. The ulnar nerve was stimulated submaximally using TOF stimulation (30 mA) . Postoperative residul curarization was defined as a TOF ratio <0.7. of the 568 patients, 239 (42%) had a TOF< 0.7 in the recovery room. These patients had received a larger cumulative dose of vecuronium than patients who had full recovery (mean 7.7 (sd 3.6) mg vs 6.2 (2.7)mg; p <0.05)and a shorter time had elapsed since the last vecuronium dose (117 (70)min vs 131 (80) min; p <0.05). Of 435 patients whose trachea was extubated, 145 (33%) exhibited inadequate recovery from neuromuscular block. Six of these had one or no response to TOF stimulation and were reintubated. In the remaining 139 patients, neuromuscular block was successfully antagonized . only 20 patients (3.5%) remembered TOF stimulation when questioned 2 h later in the recovery room, and discomfort associated with it was assessed using a visual analogue scale before discharge . we conclude that it is necessary to antagonize residual block produced by vecuronium .
BR J anaesth. Vol. 84, iss 3, p 394-395, yr. 2000

EFFICACY OF GINGER FOR NAUSEA AND VOMITING ; A SYSTEMATIC REVIEW OF RANDOMIZED CLINICAL TRIALS

Ginger (Zingiber officinale) is often advocated as benefical for nausea and vomiting. Whether the herb is truly efficacious for this systmatic review of the evidence form randomized controlled trials for or against the efficacy of ginger for nausea and ovmitng. Six studies met all inclusion cireteria and were reviewed. Three on postpoerative nausea and vomiting were identified and two of these suggested that givern was superior to placebo and equally effective as metocloprimaide. The pooled absolute risk reduction for the incidence of postoperative nausea, however, indicated a non-significant difference between the ginger and placebo groups for ginver 1 g take before operation (absolute risk reduction 0.52 (95% confidence interval –0.082 to 0.186). One study was found for each of the following conditions; seasickness, morning sickness and chemotherapy induced nausea. These studies collectively favoured ginger over placebo.
BR J ANAESTH, VOL 84, ISS 3, P 367-371, yr 2000

SEVERE VASOVAGAL ATACK DURING REGIONAL ANAESTHESIA FOR CAESAREAN SECTION

A patient experienced a severe vasovagal attach during regional anaesthesia for elective Caesarean section .The combination of vagal over-activity and sympathetic block produced profound hypotension that threatened the life of the mother and infant. The vosovagal syndrome is describd, and its preventation and management discussed.
BR J ANAESTH, Vol 84, iss 1, p 118-120, yr 2000.

HISTAMINOID REACTIONS ASSOCIATED WITH ROCURONIUM

We describe threee histaminoid reactions occuring on induction of anaesthesia. The patients were all resurscitated successfully and subsequent skin testing suggested senstivity to rocuronium. In this hospital, the incidence of such reactions I sof the order of 1 in 3000. This may be concidental but suggests that there should be close monitoring of the incidence of reactions to rocuronium. Review of the cases suggests that curent guidelines on management are not always followed.
BR J ANAESTH, VOL 84, ISS 1, P 108-111 YR 2000

PAIN ON INJECTION OF ROCURONIUM; INFLUENCE OF TWO DOSES OF LIDOCAINE PRETREATMENT

We have assessed the incidence of pain on injection of rocuronium and evaluated if pretreatment with lidocaine i.v. reduced it in a randomized, controoled study in 90 patients. We found that 37% of patients who received lidocaine 10 mg pretreatment had pain on injection of rocuronium compared with 77% of patients who received salien pretreatment and 7% of patients who were pretreated with lidocaine 30 mg (P < 0.05 in each instance compared with control). In addition, patients pretreated with lidocaine were less likely to suffer moderate or server pain. Both lidocaine 10 mg and 30 mg i.ve. given before administration of rocuronium significantly reduced the incidence and severity of pain on injection of recuronium, and the higher dose was more effective.
BR J ANAESTH, vol 84, iss 1, p 106-107, yr 2000

ANALGESIC ACTION OF I.V. MORPHINE-6 GLUCURONIDE IN HEALTHY VOLUNTEERS

The pharmacodynamics of morphine-6-glucuronide (M-6-G) i.v. were assessed in 12 healthy male volunteers in an open study. After a sinlge bolus does of M-6-G 5 mg i.v., we measured antinocieptive effects, using electrical and cold pain tests, and plasma concentration of M-6-G, morphine-3-gulcuronide (M-3-G) and morphine. Pain intensities during electrical stimulation (at 30. 60 and 90 min after injection) and ice water immersion (at 60 min) decreased significantly (P < 0.005) compared with baseline. Mean plasma peak concentrations of M-6-G were 139.3 (SD 38.9) ng m1-1, measured at 15 min. Our data demonstrate that M-6-G were 139.3 (SD 38.9) ng m1-1, measured at 15 min. Our data demonstrate that M-6-G has significant analgesic activity.
BR JA ANAESTH, vol 84, iss 1, p 97-99, yr 2000

ANALGESIC ACTION OF I.V. MORPHINE-6-GLUCURONIDE IN HEALTHY VOLUNTEERS

The pharmacodynamics of morphine-6-glucuronide (M-5-g) i.v. were assessed in 12 healthy male volunteers in an open study. After a single bolus dose of M-6-G 5 mj i.v. we measured antinociceptive effects, using electrical and cold pain tests, and plasma concentrations of M-6-G, morphine-3-glucuronide (M-3-G) and morphine. Pain intensities during electriclal stimulation (at 30. 60 and 90 min after injection) and ice water immersion (at 60min) decreased significantly (P < 0.005) compared with baseline. Mean plasma peak concentrations of M-6-G were 139.3 (SD 38.9) ng m1-l, measured at 15 min. Our data demonstrate that M-6-G has significant analgesic activity.
BR JA ANAESTH, VOL 84, ISS 1, P 97-99, YR 2000

WOUND INFILTRATION WITH BUPIVACAINE AFTER SURGERY TO THE CERVICAL SPINE USING A POSTERIOR APPROACH.

We have compared pain scores, morphine consumption and duration of stay for 50 adults who underwent elective cervical spien surgery via a posterior incision in a prospective, double-blind, placebo-controlled, randomized study. During wound closure, the paravertebral muscles and subcutaneous tissues were infiltrated with 40 ml of saline (control) or 0.25% bupivacaine. There were no

significant differences in pain scores, morphine consumption or duration of stay between groups. In view of the potential risks of wound infiltration in the cervical region, we consider that this practice should be abandoned.
BR J ANAESTH, Vol 84, iss 1, p 87-88, yr 2000.

I.V. REGIONAL DIAMORPHINE FOR ANALGESIA AFTER FOOT SURGERY

Opioids administered to peripheral tissues can have significant analgesic effects in does which would not be effective centrally. We have assessed the effects of regional diamorphine 2.5 mg i.v. in 14 patients undergoing surgical correction of bilateral arthritic foot deformities in prospective, randomized, double-blind study. Patients acted as analogue scale (VAS) pain scores and wound tenderness were measured over 72 h. Diamorphine did not improve median VAS area under the curve pain scores during the first 6 h after surgery (33 (95% confidence intervals (CI) 25-46) vs 24 (17-35). It also did not effect wound hypersensitivity when tested at 72 h after surgery (95 (47-125) vs 90 (50-125) g). There were no significant adverse effects.
Br j anaesth, Vol 84, iss 1, p 95-96, yr 2000

TOWARDS A PAIN – FREE VENEPUNCTURE

A randomized, prospective trial was conducted to assess the efficacy of various means of alleviating the pain of subcutaneous lidocaine infiltration. One hundred and twenty-two patients were randomly allocated to different groups to receive buffered lidocaine 1%, warmed lidocaine 1% or infiltration by the counter-irritation technique. A visual analogue pain score was recorded at different stages of cannulation and results showed that pain scores were significantly lower in the group receiving buffered lidocaine 1%, ($p < 0.02$) and in the counter-irritation group ($p < 0.05$). Thus buffering lidocaine 1% and administration of lidocaine 1% by the counter-irritation technique is effective in relieving the pain of lidocaine infiltration.

EVALUATION OF A NEEDLE-FREE INJECTION SYSTEM FOR LOCAL ANAESTHESIA PRIOR TO VENOUS CANNULATION

We evaluated a single-use, disposable, carbon-dixode-powdered, neeldeless injector (J-Trip, national Medical Production Inc., CA, USA), which is claimed to deliver a virtually painless, subcutaneous injection. Seventy-two patients undergoing various types of surgery had a large-bore intravenous cannula inserted prior to induction of general anaesthesia. Three minutes beforehand, a subcutaeneous injection of 0.3 ml of 1% plain lidocaine was adminstered. Subjects were randomly allocated to receive the liodane either by the needeless injector or from a conventional syringe and a 25G needle. Pain scores were recorded on injection of the lidocaine and on insertion of the cannula. There was significantly less pain on injection with the needeless injector than with the 25G needle ($p < 0.001$) but, surprisingly, there was more pain on cannulation)< 0.001). we canclude that the device certainly delivers a less painful subcutaneous injection than a 25G needle, but perhaps provides less effective skin anaesthesia for venous cannulation at sites where the subcutaneous space is small; its use might be better suited to areas where the subcutaneous space is deeper.
ANAESTHESIA, VOL 55, ISS 3, P 247-250, yr 2000

EVOKED POTENTIAL MONITORING IN ANAESTHESIA AND ANALGESIA

Electrophysiological monitoring of selected neural pathways of the brain, brainstem, spinal cord and peripheral nervous system has become mandatory in some surgery of the nervous system where preventable neural injury can occur. Evoked potentials are relatively simple methods of testing the integrity of various aspects of the nervous system. This review covers the variety of evoked potentials that can be monitored and outlines the principles of their measurement. Their use in specific situations and how factors such as anaesthesia might affect them is presented.
ANAESTHESIA, vol 55, iss 3, p 225-241, yr 2000

A COMPARISON OF PATIENT-CONTROLLED EPIDURAL ANALGESIA FOLLOWING GYNAECOLOGICAL SURGERY WITH AND WITHOUT A BACKGROUND INFUSION .

We conducted a randomised, controlled study to investigate the effect of adding a background infusion to patient-controlled epidural analgesia for postoperative pain relief. Forty-two patients scheduled for elective lower abdominal gynecological surgery received patient-controlled epidural analgesia postoperatively using a mixture of 0.2% ropivacaine and 2.0 micrograms. Ml-1 fentanyl. Patients in group B (n-20) were given a background infusion of 5 ml.h –1, whereas those in group N (n=21) were not. There was no difference in pain scores or patient satisfaction scores between the two groups. Patients in group B had a higher total drug consumption (156.8 +/- 34.8 ml vs. 8.5 +- 41.0 ml; $p < 0.001$) and incidence of side-effects (71.4% vs. 30.0%; $p = 0.007$). Motor blockade during the 24-h study period was also greater in group B (median (range) area under the cure 7.5 (0.0-39.0) h vs. 3.0 (0.0-36.0) h; $p = 0.035$). We conclude that the addition of a background infusion to patient-controlled epidural anaesthesia is not recommended as it confers no additional benefits.
ANAESTHESIA , vol 55, iss 3, p 212-216, yr 2000.

GORHAM SYNDROME; ANAESTHETIC MANAGEMENT

Gorham syndrome is a rare chronic disease of children and young adults, featuring massive osteolysis with pathological fractures and complicated by respiratory and neurological deficits. To date, 175 cases have been reported in the literature but information on anaesthetic management is sparse. We present a child with Gorham syndrom who undersent urgent surgical medullary decompression and who subsequently developed bilateral pleural effusions.
ANAESTHESIA, vol 55, iss 2, p 157-159, yr 2000.

SUCCINYLCHOLOINE-ASSOCIATED POSTOPERATIVE MYALGIA

The Subject of postoperative myalgia associated with the use of succinylcholine is reviewed. We discuss the Mechanisms of succinylcholine-induced myalgia and the techniques available to prevent and treat the myalgia. In situations where patients are at risk of developing myalgia and succinylocholine is the neuromuscular blocker of choice, the use of combination of techniques may prove to be a useful strategy.
Anaesthesia, Vol 55, iss 2, p 144-152, yr 2000.

ANALGESIC EFFECT OF LOW-DOSE INTRATHECAL MORPHINE AND BUPIVACAINE IN LAPAROSCOPIC CHOLEYSTECTOMY

We assessed the peri-operative analgesic efficieny of low-dose intrathecal morphine combined with a low dose o bupivacaine after elective laparoscopic cholecystectomy since psotoperative pain in such procedures, although less than after a conventional open technique, may be significant, particularly dueing the first 12-24 h. After informed consent, 34 ASA I or II patients were randomly allocated to one of two groups to receive either a lumber intrathecal injection of mrphine (75 or 100 micrograms) combined with 5 mg of isobaric bupivacaine (Spinal group) or a subcutaneous injection of a saline solution (control group). Intra-operatively, opioid requirements, blood pressure response and heart rate changes after insufflation were recorded. Postoperatively, morphine requirements, pain scores and opiod-related side-effects were assessed by aphysician blinded to the randomistion. Intra-operative opioid requirements did not differ significantly between groups. Mean (SD) postoperative morphine requirements were significanly lower in the spinal group [13 (10) vs. 23 (10) mg: $p = 0.04$] as were postoperative pain scores ($p < 0.001$). Side-effects were of comparable indigence and severity between groups. Low-dose intrathecal morphine combined with low-dose bupivacaine provided effective postoperative analgesia for elective laparoscopic cholecystectomy.
Anaesthesia, vol 55, iss 2, p 118-124, yr 2000

COMPARISON OF COMBINED SPINAL-EPIDURAL AND LOW DOSE EPIDURAL FOR LABOUR ANALGESIA.

Purpose: To compare the combined spinal-epidural (CSE) technique with the epidural technique with regard to time to initiate and manage, motor block, onset of analgesia and satisfaction during

labour.
Methods: Upon requesting analgesia, 50 healthy term parturients were randomized in a prospective, double-blind fashion to receive either CSE analgesia or lumber epidural analgesia in the labour floor of a university hospital at an academic medical center. The epidural group (N = 24) received bupivacaine 0.0625 % - fentan1 0.0002% with 0.05 ml in 10 ml local anesthetic sodium bicarbonte 8.4% and epinephrine 1:200, 000. The CSE group (n = 26) received intrathecal 25 micrograms fentanyl and 2.5 mg bupivacaine. Additional analgesia was provided upon maternal request.
Results: There were no difference (P > 0.05) in time to preform either technique, motore blockade, or parturient satisfaction or in the number of times that the anesthesiologist was called to perform any intervention. Although the first sign of analgesia was more rapid with the CSE technique (Visual analogue pain score (VAPS) at five minutes < three: 26/26 vs 17/24, p +/ - 0.001).
Conclusion: Although epidural analgesia with a low concentration of local anesthetic and opiod mixture takes longer to produce complete analgesia, it is a satisfacotry alternative to CSE.

INTUBATING CONDITIONS AND BLOCKADE AFTER MIVACURIUM, ROCURONIUM AND THEIR COMBINATION IN YOUNG AND ELDERLY ADULTS.

Purpose: Mivacurium-rocuronium combinations have been demonstrated to be more potent than either drug given alone. Combinations were compared with mivacurium and rocuronium, with respect to onset, intubating conditions, and duration of action in young and elderly adults.
Methods: Fentanyl-propofol-N20 isoflurane anesthesia was given to ASA I and II adults aged 18-65 yr (45 patients) and over 66 yr (45 patients). In this blinded randomized study, we compared accelerographic adductor pollicis response and visual assessment of response to facial nerve stimulation after 0.25 mg.kg-1 mivacurium, 0.6 mg.kg-1 rocuronium, nad a combination of 0.08 mg.kg-1 mivacurium plus 0.2 mg.kg-1 rocuronium.
Intubating conditions at 2.5 mine were rated as excellent, good, fair or poor.
Results: Onset times were similar for all drugs regimens and for both age groups (204-276 sec at the thumb: 142-196 sec at the eye) (p < 0.05 between muscles). Intubating conditions were similar in all groups, and rated good or excellent, except in two subjects. In young patients duration to 25% reconvery was longer (p < 0.05) for rocuronium (mean +/- SD_) (39 +/- 11 min) than for either mivacurium (23 +/- 6 min), or the combination (27 +/- 7 min). Duration was prolonged in the elderly for rocuronium (54 +/- 17 min), and the combination (35 +/- 11 min), but not for mivacurium (24 +/- 6 min).
Conclusions: Mivacurium-rocuronium combinations yield onset times and intubating conditions similar to either parent agent with only two thirds as mich total durg. Duration for such a mixture is similar to that of mivacurium in young adults and slightly prolonged in the elderly.

A COMPARISON OF MIDAZOLAM, ALFENTANIL AND PROPOFOL FOR SEDATION IN OUTPATINENT INTRAOCULAR SURGERY.

Purpose: To determine the ideal sedative regimen for intraocular surgery under peribulbar or retrobulbar block. The addition of alfentanil and or profofol to midazolm was evaluated with regard to bemodynamic variables, respiratory rate pain, anxiety, sedation, postoperative reconvery and paitent satisfaction.
Methods: Eighty two patients aged between 50 and 85 were recuited into this prospective, randomised, double blind study. Patients, in four groups, received 0.015 mg. Kg-1 midazolam, 5 micrograms. Kg-1 alfentanil and 0.15 mg.kg-1 propofol: 0.015mg. kg midazolam and 0.15 mg.kg-1 profol: 0.015 midazlolam alone. Blood pressure, heart rate, respiratory rate, pain, anxiety and secation scores were measurd. Times to discharge from the post anesthesia care unit (PACU) and day Surgery Unit (DSU) were documented. A 24 hr telephone interview was carred out to determine patient satisfaction.
Results: Systolic blood pressure of patients in groups that had received alfentanil was 6% lower than that of patinets who had not (p < 0.05) at the time of isertion of intraocular block. Patients in the alfentnil groups also and lower respiratory rates during the first 15 min after drug administration, but all patients were given supplemental oxygen therefore oxygen saturation was unaffected. Pain scores of patients who had been given alfentnil were lower during the first postoperative hour than those who had not.
Conclusion: The addition of alfentanil to midazolam ins advantageous in providing sedation for insertion of intraocular block.

FAMILIAL HYPOKALEMIC PERIODIC PARAYSIS AND WOLFF-PARKINSON-WHITE SYNDROME IN PREGNANCY.

Purpose: To descirbe the anesthetic and obstetrical managemtn of a pregnant patient with co-Existing familial hypokalemic periodic paralysis (FHPP) and wolff-=Parkinson-White Syndrome(WPW).
Clinical Features: A 29 Yr-old primigravida with FHPP and WPW presented to the antenatal clinic at 18 wk gestation, for consideration of her was constructed to avoid the known precipitating factors of FHPP including carbohydrate loading, cold, mental stress and exercise, which could lead to acute attacks of weakness. She presented for induction of labour at 41 wk and three days. An apidural catheter was sited early in labour. The Second stage was limited to less than one hour. She had a rotational forceps delivery for which the epidural was extended to provide anesthesia. A healthy male baby was delivered. The patient made an uncomplicated recovery and was discharged home on the second postnatal day. The peripartum postassium was kept within the normal range with intravenousas well as oral potassioum supplementation. No arrhythmias were reported.
Conclusion: Assessment of the patient at an early stage in her pregnancy allowed for a ultidisciplinary approach to this patient and her medical problems. A plan was made to avoid known precpitating factors during labour, delivery and the postnantal period well in advance of her date of confinement, leading to successful outcome for mother and child.

EPIDURAL MEPERIDINE DOES NOT CAUSE HEMODYNAMIC CHANGES IN THE TERM PARTURIENT.

Purpose: Meperidine has local anesthetic properties and, therefore, when given epidurally it has the potential to cause hemodynamic changes. Our objective was to study the hemodynamic effects of and analgesic dose of epidural meperidine (50 mg) in 34 ASA 1-2 term parturients scheduled for elective cesarean section under epidural anesthesia.
Methods: A lumbar epidural cathter was inserted and patients lay in the supine left wedge position. Intravenous fluid preload was withheld, and hemodynamic measurments comprising of mean arterial pressure, cardiac output and heart rate were made using automatic oscillotonometry (Dinamap 1486 SX) and transthoracic electrical bioimpedance (Bomed NCCOm3). Fllowing baseline measurements, the hemodynamic effects of sequential epidural injection of first, 10 ml saline, and 20 min thereafter, 50 mg meperidine diluted to 10 ml with saline, were recorded. Sensory blockede was assessed following each injection using loss of temperature discrimination to ice. Paired student t tests were used to compare changes in hemodynamic variables.
Results: Epidural meperidine produced a small increae from the saline values in the mean (SD) cardiac output of 5.81 +/- 1.44 to 6.04 +/- 1.54 L.min-1 (P < 0.05) and meas atrerial pressure of 77.1 +/- 8.8 to 79.3 +/- 9.9 mm Hg (P <).05). Sensory changes, the upper level of which ranged from L1 to T1, were detected in 94% of patients given epidural meperidine. Detectable sensory level in two patients.
Conclusion: Epidural meperidine, 50 mg, caused minimal hemodyamic changes in term parturients.

COMPARISON OF DIFFERENTIAL BLOCKADE DURING SPINAL ANESTHESIA USING ISOBARIC VS HYPERBARIC LIDOCAINE 2 %.

Purpose: To compare the extent of the sensory, Motor and sympathetic block produced by a single does of 60 mg lidocaine at the same concentration (2 %) and volume but at diffenent baricity injected intraspinally.

Method: In a randomised double blind study, 40 ASA I-II patients were scheduled for elective surgery (orthopedic, urologig, peripheral vascular and lower digestive procedure). They were divided in two groups. Twenty patients received 60 mg lidocaine 2% in a isobaric solution. The levels of sensory (Pinprick, ice) motor (Bromage scale) and sympathetic blockade(galvanomety, cutaneous blood flow, temperature) were measued at 0, 5m 10, 15, 20 and 30 min.

Results: There were no diffenences between the groups with regard to miximal height of sympathetic block, sensory level to pinprick: T5 +/- 2.4 for isobaric groupt T6 +/- 3.6 for hyperbarick group or to cold : T3 +/- 2.3 for isobric group, T4 +/- 2.7 for hyperbatic grou. Hyperbaric lidocaine 2 % produced a more pronounced sensory (Pineprick, Ice) and motor block on the dependent than on the non-dependent side.

Conclusion: The baricity of 60 mg lidocaine injected intraspinally in the lateral decubitus position did not influence the cephalad spread of sensory or sympathethic blockade. In the hyperbaric group, the dependent side showed a more pronounced sensory (pinprick, ice), and motor block.

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RATE OF CHANGE OF CEREBRAL BLOOD FLOW VELOCITY WITH HYDPERVENTILATION DURING ANESTHESIA IN HUMANS.

Purpose: Although it has been suggested that the rate at which the cerebral circulation responds to changes in Pa CO2 is different with differing anesthetics, there have been no attempts to measure this. Trancranial Doppler allows the continuous measurment of cerebral blood rate of change of CBFV when end-tidal CO2 (PetCO2) was rapidly altered during halothane or isoflurane anesthesia.

Methods: Twenty-eight unpremedicated healthy patients were randomly assigned to receive air/02 and either 1-1.5 MAC halothane or isoflurance as the primary anesthetic. After 15 min of steady state, PETCO2 was rapidly reduced from 45 mm hg to 30 mmhg. CBFV and PetCO2 were recorded every 30 sec for the next 10 min.

Results: The rate of change of normalized CBFV (Delta CBVF vs Delta time) was more rapid in the isoflurane group ($P < 0.0001$) especially in the initial few minitues. In all patients anesthetized with isoflurane, and in all but two patients anesthetized with halothane, the reduction in PETCO2 produced a corresponding decrease in CBFV. However, threre were no differences in the magnitude of cerebrovascular CO2 reactivity (Delta CBFV vs Delta Petco2) between the two groups.

Conclusions: The rate of change of CBFV was faster in the isoflurane than in the halothane group especially in the intial few minutes. Indeed, for two patients in the halothane group Vmca did not change despite a change in PETCO2. This may be of clinical importance when cerebrovascular tone needs to be changed rapidly.

PLASMA CONCENTRATIONS OF FLUMAZENIL FOLLOWING INTERNASAL ADMINISTRATION IN CHILDREN.

Purpose: A pharmacokinetic study in children to determine plasma flumazenil concentrations after the internasal intranasal administration of 40 micrograms. Kg-1

Methods: Following institutional approval and informed written consent, 11 ASA physical status I-II patients, aged two to six years, undergoing general anesthesial for dental surgery were recurited. After induction, 40 micrograms. Kg-1 flumazenil anexate, Roach, 0.1 mg.ml-1 (0.4 ml. Kg-1) were administered via a syting as deops prior to nasal intubation. Venous and then at 2, 4, 6, 8, 10, 15, 20, 30, 40, 60, and 120 in thereafter. The plasma samples were immediatley processed by the on-site laboratory and then stored at – 70 degreesC, before batch analysis via high performance liquid chromatography assay. Pharmacokinetic data calculations were discarrded due to in

PHARMACOKINETICS OF TRAMODOL IN CHILDREN AFTER I.V. OR CAUDAL EPIDURAL ADMINSTRATION

We have studied the pharmacokinetics of a single bolus dose of tramadol 2mg kg-1 injected either i.v. or into the caudal epidural space in 14 healthy children, aged 1-12 yr, undergoing elective limb, urogenital of thoracic surgery. Serum concentrations of tramadol and its metabolite O-demethyl tramadol (M1) were measured in venous blood samples at various intervals up to 20 h by non-stereoselective gas chromatography with nitrogen-selective detection. All pharmacokinetic variables were evaluated using a non-compartmental model. After a single i.v. injection (n=9), the mean elimination half-life of tramadol was 6.4 (SD 2.7) h, with a volume of distribution of 3.1 (1.1) litre kg-1 and total plasma clearance of 6.1 (2.5) ml kg-1 min-1. All of these pharmacokinetic variables were similar to those reported previously in adults. After caudal epidural administration (n=5), mean elimination half-life was 3.7 (0.9) h, volume of distribution was 2.0 (0.4) liter kg-1 and total clearance was 6.6 (1.9) ml kg-1 min-1. The caudal /i.v. quotient of the AUC was 0.83, which confirms that there is extensive systemic absorption of tramadol after caudal administration. Serum concentrations of M1 showed a time course typical of a metabolite after both modes of administration. Serum concentrations of M1 after caudal administration were lower than those after i.v. injection.

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S(+) – KETAMINE FOR CAUDAL BLOCK IN PAEDIATRIC ANAESTHESIA

We have evaluated the intra-and postoperative analgesic efficacy of preservative-free S(+)-ketamine compared with bupivacaine for caudal block in paediatric hernia repair. After induction of general anaesthesia, 49 children undergoing hernia repair were given a caudal injection (0.75 ml kg-1) of S(+)-ketamine 0.5 mg kg-1 (group K1), S(+)-ketamine 1.0 mg kg-1 (group K2) or 0.25% bupivacaine with epinephrine 1:200,000 (group B). No additional anaglesic drugs were required during operation in any of the groups. Haemodynamic and respiratory variables remained stable durign the observation period. Mean duration of analgesia was significantly longer in groups B and K2 compared with group K1 (300 (SD 96) min and 273 (123) min vs 203 (117) min; $P<0.05$). Groups B and K2 required less anaglesics in the postoperative period compared with group K1 (30% and 33% vs 72% $P< 0.05$). Postoperative sedation scores were comparable between the three groups. We conclude that S(+)-ketamine 1.0 mg kg-1 for caudal block in children produced surgical and postoperative analgesia equivalent to that of bupivacaine.

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PATIENT-CONTROLLED ANALGESIA IN LABOUR USING REMIFENTANIL IN TWO PARTURIENTS WITH PLATELET ABNORMALITIES.

Two term parturient with documented platelet abnormalities presented to the delivery suite in labour. Because regional analgesic tecniques were contraindicated, we elected to use patient-controlled i.v. remifentanil for pain relief. The patient-controlled analgesia (PCA) device was programmed to give a bolus dose of remifentanil 20 micrograms over 20s with a lockout time of 3 min, and no background infusion. Analgesia was reported as very good by the mothers and by the attended midwives. There were no adverse neonatal sequelae. If there are facilities to monitor the neonate and mother, this method of analgesia may prove useful in those patients where regional techniques are not possible, but further research is needed to ascertain its safety and appropriateness in such circumstances.

BR J ANAESTH, Vol 84, iss 3, p 411-413, yr 2000