Outreach

Your Outreach Librarian can help facilitate evidence-based practise for all Anaesthesia staff, as well as assisting with academic study and research. We can help with literature searching, obtaining journal articles and books, and setting up individual current awareness alerts.

Literature Searching

We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a 1 to 1 session where we can guide you through the process of creating a well-focused literature research and introduce you to the health databases access via NHS Evidence.

Critical Appraisal Training

We also offer one-to-one or small group training in literature searching, accessing electronic journals, and critical appraisal/Statistics. These are essential courses that teach how to interpret clinical papers.

For more information, email: katie.barnard@uhbristol.nhs.uk

Books

Books can be searched for using SWIMS our online catalogue at www.swims.nhs.uk. Books and journals that are not available on site or electronically may be requested from other locations. Please email requests to: library@uhbristol.nhs.uk
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Quick exercise

Systematic Reviews

There are 7 key steps that need to be taken when carrying out a Systematic Review. Can you put them in order?

A. Quality assessment
B. Study selection
C. Synthesis
D. Data extraction
E. Define the question
F. Literature search
G. Writing up

For assistance with carrying out a systematic review search or a literature search, please email library@uhbristol.nhs.uk.
Title: Autistic children and anesthesia: Is their perioperative experience different?

Citation: Paediatric Anaesthesia, November 2015, vol./is. 25/11(1103-1110), 1155-5645;1460-9592 (01 Nov 2015)

Author(s): Arnold B., Elliott A., Laohamroonvorapongse D., Hanna J., Norvell D., Koh J.

Abstract: Summary Background Children with autism spectrum disorders (ASD) are an increasingly common patient population in the perioperative setting. Children with ASD present with abnormal development in social interaction, communication, and stereotyped patterns of behavior and may be more prone to elevated perioperative anxiety. The perioperative experience for these patients is complex and presents a unique challenge for clinicians. Aim The aim of the current study was to provide a further understanding of the premedication patterns and perioperative experiences of children with ASD in comparison to children without ASD. Methods Using a retrospective cohort study design, medical records were evaluated for patients with and without ASD undergoing general anesthesia for dental rehabilitation from 2006-2011. The following objectives were measured and compared: (i) premedication patterns and (ii) complications, pain, anesthetic type, PACU time, and time to discharge. To compare categorical variables, the chi-square test was used. Bivariate and multivariable analyses were performed to control for potential confounding as a result of baseline differences between the two groups. Results A total of 121 ASD patients and 881 non-ASD patients were identified. When controlling for age, weight, and gender, children in the ASD group were more likely to have nonstandard premedication types (P < 0.0001), while children without ASD were more likely to have standard premedication types (P < 0.0001). No significant group differences were identified in regards to the other outcome measures. Conclusions Other than a significant difference in the premedication type and route, we found that children with ASD seemed to have similar perioperative experiences as non-ASD subjects. It was especially interesting to find that their postoperative period did not pose any special challenges. There is much to be learned about this unique patient population, and a more in-depth prospective evaluation is warranted to help better delineate the best approach to caring for these patients.

Publication Type: Journal: Article

Full Text: Available from Ovid in Pediatric Anesthesia

Title: A systematic review and meta-analysis of acute severe complications of pediatric anesthesia

Citation: Paediatric Anaesthesia, November 2015, vol./is. 25/11(1093-1102), 1155-5645;1460-9592 (01 Nov 2015)


Abstract: Summary Background Quantification of acute severe complications of pediatric anesthesia is essential to plan clinical guidelines and educational curricula. Aim Our aim was to identify complications in terms of frequency and outcomes. Methods We defined acute severe complications
as an unexpected perioperative event, which without intervention by the anesthesiologist within 30 min may lead to disability or death. A systematic search was performed using MEDLINE, EMBASE, and CINAHL. Screening and data extraction were performed independently. Assessment of bias was conducted using GRADE guidelines. Results Of 3002 abstracts, 25 met all inclusion criteria. The most common acute severe complications in pediatric anesthesia are related to airway management and respiratory system, followed by cardiovascular events. There was a great variation in reporting the methods, particularly poor definitions of diagnostic criteria for complications. Data were heterogeneous and pooled estimates may not be generalizable. Some studies failed to define potential source of bias, explain how missing data were addressed, describe acute severe complications, and had incomplete postoperative follow-up. Conclusion The data on pediatric anesthesia acute severe complications are poorly defined with large variation in the specificity of diagnostic reporting even within studies. We suggest that it is vital for future studies in this area to be based on a standardized system of diagnostic reporting (possibly with a hierarchical system of coding) with adequate description of population details to describe heterogeneity of data.

Full Text: Available from Ovid in Pediatric Anesthesia

Title: Longer Immediate Recovery Time After Anesthesia Increases Risk of Respiratory Complications After Laparotomy for Bariatric Surgery: a Randomized Clinical Trial and a Cohort Study

Citation: Obesity Surgery, November 2015, vol./is. 25/11(2205-2212), 0960-8923;1708-0428 (01 Nov 2015)

Author(s): Sudre E.C.M., de Batista P.R., Castiglia Y.M.M.

Abstract: Background: We compared the effects of two anesthesia protocols in both immediate recovery time (IRT) and postoperative respiratory complications (PRCs) after laparotomy for bariatric surgery, and we determined the association between the longer IRT and the increase of PRC incidence. Methods: We conducted the study in two stages: (i) in a randomized controlled trial (RCT), patients received either intervention (sevoflurane-remifentanil-rocuronium-ropivacaine) or control protocol (isoflurane-sufentanil-atracurium-levobupivacaine). All patients received general anesthesia plus continuous epidural anesthesia and analgesia. Treatment was masked for all, except the provider anesthesiologist. We defined IRT as time since anesthetics discontinuation until tracheal extubation. Primary outcomes were IRT and PRCs incidence within 15 days after surgery. We also analyzed post-anesthesia care unit (PACU) and hospital length of stays; (ii) after the end of the RCT, we used the available data in an extension cohort study to investigate IRT > 20 min as exposure factor for PRCs. Results: Control protocol (n = 152) resulted in longer IRT (30.4 +/- 7.9 vs 18.2 +/- 9.6 min; p < 0.0001), higher incidence of PRCs (6.58 vs 2.5 %; p = 0.048), and longer PACU and hospital stays than intervention protocol (n = 200); PRC relative risk (RR) = 2.6. Patients with IRT > 20 min (n = 190) presented higher incidence of PRCs (7.37 vs 0.62 %; p < 0.0001); RR = 12.06. Conclusions: Intervention protocol, with short-acting anesthetics, was more beneficial and safe compared to control protocol, with long-acting drugs, regarding the reduction of IRT, PRCs, and PACU and hospital stays for laparotomy in bariatric patients. We identified a 4.5-fold increase in the relative risk of PRCs when morbid obese patients are exposed to an IRT > 20 min.

Publication Type: Journal: Article

Title: Effects of prophylactic ondansetron on spinal anesthesia-induced hypotension: a meta-analysis
Citation: International Journal of Obstetric Anesthesia, November 2015, vol./is. 24/4(335-343), 0959-289X;1532-3374 (November 2015)


Language: English

Abstract: Background A range of strategies including physical interventions, intravenous fluids and vasopressor drugs have been used to minimize or prevent spinal anesthesia-induced hypotension. Recent studies suggest that ondansetron, a commonly used antiemetic, also affects hypotension. This systematic review investigated the effects of prophylactic ondansetron on hemodynamic changes following spinal anesthesia. Methods Medline, Embase, Cochrane Library databases and www.clinicaltrials.gov were searched for randomized controlled trials studying the effects of ondansetron on hemodynamic changes induced by spinal anesthesia. The primary outcome was hypotension. Relative risk (RR) or mean difference, with 95% confidence intervals (CI), were used to analyze outcomes. Results Ten randomized controlled trials with 863 patients were included in the analysis. Prophylactic ondansetron reduced the incidence of spinal anesthesia-induced hypotension in both obstetric and non-obstetric patients. The RR of spinal anesthesia-induced hypotension after ondansetron administration was 0.53 (95% CI 0.32 to 0.86) in obstetric patients and 0.16 (95% CI 0.05 to 0.51) in non-obstetric patients. There was significant heterogeneity among obstetric studies (I^2 = 71%). Ondansetron also reduced the incidence of bradycardia, nausea and vomiting after spinal anesthesia with RRs of 0.27 (95% CI 0.16 to 0.47), 0.24 (95% CI 0.14 to 0.42) and 0.48 (95% CI 0.08 to 3.08), respectively. The doses of ephedrine and phenylephrine required to treat hypotension were reduced by ondansetron with mean differences of -2.35 mg (95% CI -4.14 to -0.55 mg) and -31.16 mug (95% CI -57.46 to -4.87 mug), respectively. Conclusion This review suggests that prophylactic ondansetron reduces the incidence of spinal anesthesia-induced hypotension and vasopressor consumption in both obstetric and non-obstetric patients. In addition, ondansetron can also reduce related adverse outcomes such as bradycardia, nausea and vomiting. However, given the relatively large heterogeneity and small sample sizes in current studies, further large and strict randomized clinical trials investigating the effects of ondansetron on spinal anesthesia-induced hemodynamic changes and side effects are still needed, especially among obstetric patients.

Publication Type: Journal: Article

Title: A randomised controlled trial of the effect of a head-elevation pillow on intrathecal local anaesthetic spread in caesarean section

Citation: International Journal of Obstetric Anesthesia, November 2015, vol./is. 24/4(303-307), 0959-289X;1532-3374 (November 2015)

Author(s): Elfil H., Crowley L., Segurado R., Spring A.

Language: English

Abstract: Background A head-elevation pillow places a patient in a ramped posture, which maximises the view of the larynx during laryngoscopy, particularly in obese parturients. In our institution an elevation pillow is used pre-emptively for neuraxial anaesthesia. We hypothesised that head-elevation may impair cephalad spread of local anaesthetic before caesarean section resulting in a lower block or longer time to achieve a T6 level. We aimed to investigate the effect of head-
Methods One-hundred parturients presenting for caesarean section under combined spinal-epidural anaesthesia were randomised to either the standard supine position with lateral displacement or in the supine position with lateral displacement on an head-elevation pillow. Each patient received intrathecal hyperbaric bupivacaine 11 mg, morphine 100 mug and fentanyl 15 mug. Patients were assessed for adequacy of sensory block (T6 or higher) at 10 min. Results Sensory block to T6 was achieved within 10 min in 65.9% of parturients in the Elevation Pillow Group compared to 95.7% in the Control Group (P<0.05). Compared to the Control Group, patients in the Elevation Pillow Group had greater requirements for epidural supplementation (43.5% vs 2.1%, P<0.001) or conversion to general anaesthesia (9.3% vs 0%, P<0.04). Conclusions Use of a ramped position with an head-elevation pillow following injection of the intrathecal component of a combined spinal-epidural anaesthetic for scheduled caesarean section was associated with a significantly lower block height at 10 min.

Title: Age as a predictor of rescue opioid administration immediately after the emergence of general anesthesia

Citation: Journal of Clinical Anesthesia, November 2015, vol./is. 27/7(537-542), 0952-8180;1873-4529 (November 2015)

Author(s): Ladha K.S., Wanderer J.P., Nanji K.C.

Abstract: Background and objectives While previous studies have shown that elderly patients require lower dosages of opioids, the literature suggests that pain is undertreated in the geriatric population, which may lead to postoperative pain and high rescue analgesia requirements. The purpose of this study is to determine whether elderly patients undergoing hip and knee arthroplasty require higher levels of postoperative rescue opioids than their younger counterparts early after emergence from anesthesia. Methods Using a nonconcurrent retrospective cohort study design, patients who underwent hip or knee arthroplasty under general anesthesia at a tertiary academic hospital from 2007 to 2012 were identified. Demographic information and data regarding patients' anesthetic care were obtained from the institution's anesthesia information management system. To assess the presence of pain after the emergence of anesthesia, we used, as a proxy, opioid administration by the anesthesia provider after leaving the operating room and before the end of anesthesia care. Results A total of 2731 patients met inclusion criteria, of which 487 (17.8%) received rescue opioids. Patients older than 80 years were less likely to receive opioids after leaving the operating room (odds ratio, 0.57; 95% confidence interval, 0.37-0.88; P =.01) and received 1.37 mg less of hydromorphone equivalent opioid compared to patients younger than the age of 50 years (95% confidence interval, 1.18-1.55; P <.001). The proportion of patients who received rescue opioids varied significantly between anesthesia providers from 0% to 38% (P <.001). Conclusions While elderly patients received lower doses of opioids intraoperatively, they were less likely to require rescue analgesia. The variability among providers in rescue opioid administration after emergence presents an opportunity for further research.

Title: Perioperative local infiltration anesthesia with ropivacaine has no effect on postoperative pain after total hip arthroplasty

Publication Type: Journal: Conference Paper
Abstract: Background and purpose - The local infiltration analgesia (LIA) technique has been widely used to reduce opioid requirements and to improve postoperative mobilization following total hip arthroplasty (THA). However, the evidence for the efficacy of LIA in THA is not yet clear. We determined whether single-shot LIA in addition to a multimodal analgesic regimen would reduce acute postoperative pain and opioid requirements after THA. Patients and methods - 116 patients undergoing primary THA under spinal anesthesia were included in this randomized, double-blind, placebo-controlled trial. All patients received oral opioid-sparing multimodal analgesia: etoricoxib, acetaminophen, and glucocorticoid. The patients were randomized to receive either 150 mL ropivacaine (2 mg/mL) and 0.5 mL epinephrine (1 mg/mL) or 150 mL 0.9% saline. Rescue analgesic consisted of morphine and oxycodone as needed. The primary endpoint was pain during mobilization in the recovery unit. Secondary endpoints were pain during mobilization on the day after surgery and total postoperative opioid requirements on the first postoperative day. Results - The levels of pain during mobilization - both in the recovery unit and on the day after surgery - and consumption of opioids on the first postoperative day were similar in the 2 groups. Interpretation - LIA did not provide any extra analgesic effect after THA over and above that from the multimodal analgesic regimen used in this study.

Publication Type: Journal: Article

Full Text: Available from National Library of Medicine in Acta Orthopaedica

Title: Randomised phase 3 double-blind placebo-controlled trial of methoxyflurane with periprostatic local anaesthesia to reduce the discomfort of transrectal ultrasound-guided prostate biopsy (pain-free trus B): Anzup 1501
the participant's biopsy experience, biopsy completion, frequency of specified adverse events and frequency of hospitalisation. A sample size of 420 participants provides over 85% power at the two-sided 5% level of significance to detect a 0.80 point difference in mean pain scores (on scale from 0-10) assuming a standard deviation of 2.5 whilst allowing for missing data. Patients will complete a questionnaire to document their experience of the biopsy at 5-30 minutes following the procedure and at 7-35 days after the procedure. Urologists will also complete a questionnaire on the day of the procedure. Trial recruitment is scheduled to start by the last quarter of 2015.

**Publication Type:** Journal: Conference Abstract

**Title:** Pitfalls in reporting sample size calculation in randomized controlled trials published in leading anaesthesia journals: A systematic review

**Citation:** British Journal of Anaesthesia, November 2015, vol./is. 115/5(699-707), 0007-0912;1471-6771 (November 2015)

**Author(s):** Abdulatif M., Mukhtar A., Obayah G., Hardman J.G.

**Abstract:** We have evaluated the pitfalls in reporting sample size calculation in randomized controlled trials (RCTs) published in the 10 highest impact factor anaesthesia journals. Superiority RCTs published in 2013 were identified and checked for the basic components required for sample size calculation and replication. The difference between the reported and replicated sample size was estimated. The sources used for estimating the expected effect size (DELTA) were identified, and the difference between the expected and observed effect sizes (DELTA gap) was estimated. We enrolled 194 RCTs. Sample size calculation was reported in 91.7% of studies. Replication of sample size calculation was possible in 80.3% of studies. The original and replicated sample sizes were identical in 67.8% of studies. The difference between the replicated and reported sample sizes exceeded 10% in 28.7% of studies. The expected and observed effect sizes were comparable in RCTs with positive outcomes (P=0.1). Studies with negative outcome tended to overestimate the effect size (DELTA gap 42%, 95% confidence interval 32-51%), P<0.001. Post hoc power of negative studies was 20.2% (95% confidence interval 13.4-27.1%). Studies using data derived from pilot studies for sample size calculation were associated with the smallest DELTA gaps (P=0.008). Sample size calculation is frequently reported in anaesthesia journals, but the details of basic elements for calculation are not consistently provided. In almost one-third of RCTs, the reported and replicated sample sizes were not identical and the assumptions for the expected effect size and variance were not supported by relevant literature or pilot studies.

**Publication Type:** Journal: Review

**Title:** Does regional anaesthesia improve outcome after surgery?

**Citation:** Anaesthesia and Intensive Care Medicine, November 2015, vol./is. 16/11(574-577), 1472-0299;1878-7584 (November 2015)

**Author(s):** Fischer B., Bosch O.D.

**Abstract:** There is conclusive evidence that regional anaesthesia provides better postoperative analgesia than systemic opioid techniques. Regional anaesthesia also has the potential to improve the functional outcome from surgery, although proving this in a clinically relevant way is challenging;
many studies are inconclusive with methodological weaknesses making comparison difficult and offering conflicting evidence. Systematic reviews offer better evidence that regional anaesthesia improves outcome but both anaesthetic and surgical practice have evolved over time, so older data may not be relevant to current practice. Regional anaesthesia improves outcome only when incorporated into a structured postoperative rehabilitation and recovery programme (enhanced recovery), using the effective analgesia provided to achieve specific targets. These targets include early mobilization, active physiotherapy and early return to enteral nutrition. Other benefits of regional anaesthesia (reduced blood loss, lower risk of thromboembolic events and duration of ileus) also contribute to a reduction in postoperative morbidity. However, unless the postoperative recovery programme is modified to incorporate these benefits into a patient’s recovery, the full impact of regional anaesthesia on surgical outcome will not be realized.

Publication Type: Journal: Review
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