Artigo do Mês

Article of the Month

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A medicina baseada em evidência constitui o paradigma atual da prática médica, garantindo a qualidade dos cuidados de saúde prestados.[1,2] Contudo, a atualização científica constante torna-se particularmente desafiante face à expansão exponencial da produção científica, à escassez de tempo disponível e a barreiras organizacionais, que constituem desafios à adoção da evidência mais recente.[2,3] Este cenário reflete o conceito de "*filter failure*", segundo o qual o principal desafio na era digital contemporânea não reside no excesso de informação, mas na insuficiência dos mecanismos para a sua triagem e avaliação.[3] Perante este contexto, torna-se ainda mais crucial filtrar, facilitar o acesso, a interpretação e a aplicação da evidência científica de forma eficiente e adaptada à prática clínica.

Para responder a esta necessidade, numa iniciativa conjunta entre as Secções de Internos e de Investigação Científica da Sociedade Portuguesa de Anestesiologia nasceu em janeiro de 2024 a rubrica 'Artigo do Mês'. Nesta rubrica, procura-se identificar e divulgar mensalmente uma publicação de excelência.

De uma forma certamente redutora, destacamos os artigos partilhados em 2024 por esta rubrica:

1. *Prediction of Complications and Prognostication in Perioperative Medicine: A Systematic Review and PROBAST Assessment of Machine Learning Tools.*[4]
2. *Impact of postoperative cardiovascular complications on 30-day mortality after major abdominal surgery: an international prospective cohort study.*[5]
3. *Remimazolam versus propofol for sedation in gastrointestinal endoscopic procedures: a systematic review and meta-analysis.*[6]
4. *Dose-response relationships of intravenous and perineural dexamethasone as adjuvants to peripheral nerve blocks: a systematic review and model-based network meta-analysis.*[7]
5. *Glucagon-Like Peptide-1 Receptor Agonist Use and Residual Gastric Content Before Anesthesia.*[8]
6. *Mortality and morbidity after total intravenous anaesthesia versus inhalational anaesthesia: a systematic review and meta-analysis.*[9]
7. *Efficacy and safety of intraoperative controlled hypotension: a systematic review and meta-analysis of randomised trials.*[10]
8. *Continuation vs Discontinuation of Renin-Angiotensin System Inhibitors Before Major Noncardiac Surgery.*[11]
9. *Society for Ambulatory Anesthesia Updated Consensus Statement on Perioperative Blood Glucose Management in Adult Patients With Diabetes Mellitus Undergoing Ambulatory Surgery.*[12]
10. *A Propensity-Matched Cohort Study of Intravenous Iron versus Red Cell Transfusions for Preoperative Iron-Deficiency Anemia.*[13]
11. *Perioperative fluid management: evidence-based consensus recommendations from the international multidisciplinary PeriOperative Quality Initiative.*[14]

12. *ESAIC focused guidelines for the management of the failing epidural during labour epidural analgesia.*[15]

Destes artigos publicados, destacamos o que é a nossa seleção dos três melhores, bem como com o *abstract* acompanhante.

A. *Mortality and morbidity after total intravenous anaesthesia versus inhalational anaesthesia: a systematic review and meta-analysis.*[9] Este artigo apresenta o seguinte *abstract*:
*"**Background:** General anaesthesia is provided to more than 300 million surgical patients worldwide, every year. It is administered either through total intravenous anaesthesia, using only intravenous agents, or through inhalational anaesthesia, using volatile anaesthetic agents. The debate on how this affects postoperative patient outcome is ongoing, despite an abundance of published trials. The relevance of this topic has grown by the increasing concern about the contribution of anaesthetic gases to the environmental impact of surgery. We aimed to summarise all available evidence on relevant patient outcomes with total intravenous anaesthesia versus inhalational anaesthesia.*
***Methods:** In this systematic review and meta-analysis, we searched PubMed/Medline, Embase and Cochrane Central Register of Controlled trials for works published from January 1, 1985 to August 1, 2023 for randomised controlled trials comparing total intravenous anaesthesia using propofol versus inhalational anaesthesia using the volatile anaesthetics sevoflurane, desflurane or isoflurane. Two reviewers independently screened titles, abstracts and full text articles, and assessed risk of bias using the Cochrane Collaboration tool. Outcomes were derived from a recent series of publications on consensus definitions for Standardised Endpoints for Perioperative trials (StEP). Primary outcomes covered mortality and organ-related morbidity. Secondary outcomes were related to anaesthetic and surgical morbidity. This study is registered with PROSPERO (CRD42023430492).*
***Findings:** We included 317 randomised controlled trials, comprising 51,107 patients. No difference between total intravenous and inhalational anaesthesia was seen in the primary outcomes of in-hospital mortality (RR 1.05, 95% CI 0.67-1.66, 27 trials, 3846 patients), 30-day mortality (RR 0.97, 95% CI 0.70-1.36, 23 trials, 9667 patients) and one-year mortality (RR 1.14, 95% CI 0.88-1.48, 13 trials, 9317 patients). Organ-related morbidity was similar between groups except for the subgroup of elderly patients, in which total intravenous anaesthesia was associated with a lower incidence of postoperative cognitive dysfunction (RR 0.62, 95% CI 0.40-0.97, 11 trials, 3834 patients) and a better score on postoperative cognitive dysfunction tests (standardised mean difference 1.68, 95% CI 0.47-2.88, 9 trials, 4917 patients). In the secondary outcomes, total intravenous anaesthesia resulted in a lower incidence of postoperative nausea and vomiting (RR 0.61, 95% CI 0.56-0.67, 145 trials, 23,172 patients), less emergence delirium (RR 0.40, 95% CI 0.29-0.56, 32 trials, 4203 patients) and a higher quality of recovery score (QoR-40 mean difference 6.45, 95% CI 3.64-9.25, 17 trials, 1835 patients).*
***Interpretation:** The results indicate that postoperative mortality and organ-related morbidity was similar for intravenous and inhalational anaesthesia. Total intravenous anaesthesia offered advantages in postoperative recovery."* [9]

Este artigo foi publicado na revista *EClinicalMedicine* na sua edição de junho de 2024. A destacar a ausência de diferenças na mortalidade e morbilidade entre os dois tipos de anestesia geral e os benefícios da anestesia endovenosa quanto à recuperação pós-operatória, menores taxas de náuseas e vómitos e *delirium*.[9]

B. *Continuation vs Discontinuation of Renin-Angiotensin System Inhibitors Before Major Noncardiac Surgery.*[11] Cujo *abstract* é:

*"**Importance:** Before surgery, the best strategy for managing patients who are taking renin-angiotensin system inhibitors (RASIs) (angiotensin-converting enzyme inhibitors or angiotensin receptor blockers) is unknown. The lack of evidence leads to conflicting guidelines.*

***Objective:** To evaluate whether a continuation strategy vs a discontinuation strategy of RASIs before major noncardiac surgery results in decreased complications at 28 days after surgery.*

***Design, Setting, and Participants:** Randomized clinical trial that included patients who were being treated with a RASI for at least 3 months and were scheduled to undergo a major noncardiac surgery between January 2018 and April 2023 at 40 hospitals in France.*

***Intervention:** Patients were randomized to continue use of RASIs (n = 1107) until the day of surgery or to discontinue use of RASIs 48 hours prior to surgery (ie, they would take the last dose 3 days before surgery) (n = 1115).*

***Main Outcomes and Measures:** The primary outcome was a composite of all-cause mortality and major postoperative complications within 28 days after surgery. The key secondary outcomes were episodes of hypotension during surgery, acute kidney injury, postoperative organ failure, and length of stay in the hospital and intensive care unit during the 28 days after surgery.*

***Results:** Of the 2222 patients (mean age, 67 years [SD, 10 years]; 65% were male), 46% were being treated with angiotensin-converting enzyme inhibitors at baseline and 54% were being treated with angiotensin receptor blockers. The rate of all-cause mortality and major postoperative complications was 22% (245 of 1115 patients) in the RASI discontinuation group and 22% (247 of 1107 patients) in the RASI continuation group (risk ratio, 1.02 [95% CI, 0.87-1.19]; P = .85). Episodes of hypotension during surgery occurred in 41% of the patients in the RASI discontinuation group and in 54% of the patients in the RASI continuation group (risk ratio, 1.31 [95% CI, 1.19-1.44]). There were no other differences in the trial outcomes.*

***Conclusions and Relevance:** Among patients who underwent major noncardiac surgery, a continuation strategy of RASIs before surgery was not associated with a higher rate of postoperative complications than a discontinuation strategy."*[11]

Publicado na *JAMA* em setembro de 2024, este artigo demonstra que a continuação de inibidores do sistema renina-angiotensina em cirurgia não cardíaca *major* não se associa a mais complicações, um tema que ainda não é consensual atualmente.[11]

C. *Society for Ambulatory Anesthesia Updated Consensus Statement on Perioperative Blood Glucose Management in Adult Patients With Diabetes Mellitus Undergoing Ambulatory Surgery.*[12] Com o seguinte *abstract*:

"This consensus statement is a comprehensive update of the 2010 Society for Ambulatory Anesthesia (SAMBA) Consensus Statement on perioperative blood glucose management in patients with diabetes mellitus (DM) undergoing ambulatory surgery. Since the original consensus guidelines in 2010, several novel therapeutic interventions have been introduced to treat DM, including new hypoglycemic agents and increasing prevalence of insulin pumps and continuous glucose monitors. The updated recommendations were developed by an expert task force under the provision of SAMBA and are based on a comprehensive review of the literature from 1980 to 2022. The task force included SAMBA members with expertise on this topic and those contributing to the primary literature regarding the management of DM in the perioperative period. The recommendations encompass preoperative evaluation of patients with DM presenting for ambulatory surgery, management of preoperative oral hypoglycemic agents and home insulins, intraoperative testing and treatment modalities, and blood glucose management in the postanesthesia care unit and transition to home after surgery. High-quality evidence pertaining to perioperative blood glucose management in patients with DM undergoing ambulatory surgery remains sparse. Recommendations are therefore based on recent guidelines and available literature, including general glucose management in patients with DM, data from inpatient surgical populations, drug pharmacology, and emerging treatment data. Areas in need of further research are also identified. Importantly, the benefits and risks of interventions and clinical practice information were considered to ensure that the recommendations maintain patient safety and are clinically valid and useful in the ambulatory setting. What Other Guidelines Are Available on This Topic? Since the publication of the SAMBA Consensus Statement for perioperative blood glucose management in the ambulatory setting in 2010, several recent guidelines have been issued by the American Diabetes Association (ADA), the American Association of Clinical Endocrinologists (AACE), the Endocrine Society, the Centre for Perioperative Care (CPOC), and the Association of Anaesthetists of Great Britain and Ireland (AAGBI) on DM care in hospitalized patients; however, none are specific to ambulatory surgery. How Does This Guideline Differ From the Previous Guidelines? Previously posed clinical questions that were outdated were revised to reflect current clinical practice. Additional questions were developed relating to the perioperative management of patients with DM to include the newer therapeutic interventions." [12]

Publicado em setembro na revista *Anesthesia & Analgesia*, este consenso da Society for Ambulatory Anesthesia fornece recomendações da gestão peri-operatória de doentes diabéticos submetidos a cirurgia de ambulatório incluindo recomendações sobre terapêutica habitual, bombas de insulina, controlo glicémico intra-operatório e recomendações para o pós-operatório destes doentes.[12]

Sabendo que muitos artigos interessantes e importantes para a prática clínica ficaram omissos da nossa seleção, continuaremos a apresentar, mensalmente, o 'Artigo do Mês', com o intuito de manter a partilha de conhecimentos dos avanços científicos. Convidamos à leitura das próximas publicações.

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