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Role of dexamethasone in reducing postoperative pain. Comment on *Br J Anaesth* 2021; **126**: 862–71

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Editor—We read with interest the recent study by Barry and colleagues,¹ in which they examined the incidence and risk factors for rebound pain after peripheral nerve block. Their study is to be commended for a number of reasons. Firstly, they highlight the significance and frequency of rebound pain after peripheral nerve block. In their single-centre retrospective cohort study that recruited 972 patients undergoing ambulatory surgery under peripheral nerve block, 482 (49.6%) experienced significant rebound pain. They defined rebound pain as the transition from well-controlled pain with a numerical rating scale (NRS) pain score of ≤ 3 to severe pain (NRS ≥ 7) within 24 h of block performance.

Awareness for the potential for rebound pain is vital, as it mandates the prescription of postoperative analgesics, including analgesics prescribed for use on discharge from hospital, to manage the rebound pain once the block wears off. These analgesic prescriptions will often include opioid analgesics, and, despite the aspirations of opioid-free analgesia and opioid-free anaesthesia protagonists,² regional analgesia is currently not protective against persistent postoperative opioid use (PPOU).³ Thus, effective postoperative opioid stewardship strategies are required to mitigate harm from PPOU whenever any form of surgery is undertaken,⁴ including when performed under regional or local anaesthesia.

Secondly, and equally importantly, their study highlights that i.v. dexamethasone is associated with a lower incidence of rebound pain. The benefits of i.v. dexamethasone in reducing the incidence of postoperative nausea and vomiting

have been known for almost 30 yr. Research over the past decade has demonstrated that the benefits of intraoperative i.v. dexamethasone also extend to reducing postoperative pain, reducing postoperative opioid consumption, reducing sore throat associated with intubation, reducing opioid consumption and improving pain control after spinal anaesthesia, reducing postoperative fatigue, and facilitation of earlier hospital discharge (Table 1).^{5–7} Consequently, i.v. dexamethasone is now specifically recommended as part of procedure-specific postoperative pain management (prospect) for procedures as disparate as Caesarean section, tonsillectomy, oncological breast surgery, rotator cuff repair, laparoscopic sleeve gastrectomy, laparoscopic hysterectomy, and laparoscopic cholecystectomy (<https://esraeurope.org/prospect/>). The prospect working party group is advocating bespoke guidance to aid recovery and restoration of function after different types of surgery. By methodically undertaking systematic reviews with a rigorous methodology, they are defining prospect guidance to achieve these goals.⁸ This is a marked contrast to the 'pain ladder' that was devised in 1986 by the WHO for the management of terminal cancer pain, the perioperative applicability of which is now being questioned.^{8,9}

The individualisation of recommendations based on surgical and patient factors is important, as there are concerns regarding the ubiquitous use of a single intraoperative dose of i.v. dexamethasone. These include increased risk of infection, poor wound healing, hyperglycaemia, and unpleasant perineal pruritus when i.v. dexamethasone is administered to awake patients.^{5,10} However, there is no evidence to suggest that single-dose intraoperative dexamethasone increases the

Table 1 Risks and benefits of single-dose intraoperative i.v. dexamethasone.

Substantiated risks	Unsubstantiated risks	Benefits
<ul style="list-style-type: none"> Mild increase in blood glucose especially in patients with diabetes mellitus Perineal pruritus 	<ul style="list-style-type: none"> Increased risk of infection <ul style="list-style-type: none"> Impaired wound healing Increased risk of anastomotic leak Increased risk of postoperative haemorrhage 	<ul style="list-style-type: none"> Reduces postoperative pain <ul style="list-style-type: none"> Reduces postoperative opioid requirements Reduces postoperative nausea and vomiting Reduces postoperative fatigue Improves quality of recovery Decreases incidence and severity of sore throat after extubation Reduces pain intensity and opioid requirements after spinal anaesthesia Reduces rebound pain after peripheral nerve block

risk of infection, delays wound healing, or precipitates either postoperative haemorrhage or anastomotic breakdown.⁵

Given the favourable balance of evidence, as summarised in Table 1, we contend that there is a growing argument to consider administration of a single intraoperative dose of i.v. dexamethasone to most surgical patients after appropriate, individualised assessment of patient risk and benefit. In the meantime, further research should be undertaken to identify strategies to minimise the impact of the unpleasant pruritus when i.v. dexamethasone is administered to awake patients undergoing regional anaesthesia.

Declarations of interest

The authors declare that they have no conflicts of interest.

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Ultrasound-guided dynamic needle tip positioning versus conventional palpation approach for catheterisation of posterior tibial or dorsalis pedis artery in infants and small children

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