

## Replacement of catheters with triamcinolone in fast-track knee replacement. A case series

Sir,

We read with great interest the recent review by Dr Krishna Prasad, G V *et al.*<sup>[1]</sup> about adjuvants to local anesthetics in peripheral nerve blocks. We would like to illustrate our experience with triamcinolone, as this is a widely known steroid used for chronic pain procedures, but not for acute pain management.

We present a case series of 10 patients receiving a single-shot infiltration between the popliteal artery and capsule of the knee (IPACK) and adductor canal block (ACB) with perineural triamcinolone as adjuvant for Fast-Track Knee Replacement (FTKR). All patients provided written informed consent.

Patients admitted for FTKR, received spinal anesthesia with 8 mg of levobupivacaine under intravenous sedation with midazolam. An IPACK and ACB using 20 mL of 0.25% bupivacaine with 20 mg of triamcinolone acetate was performed, with no surgical infiltration. Nonsteroidal anti-inflammatory drugs were given to all patients as part of a multimodal analgesic regimen.

Both blocks were ultrasound-guided (GE LOGIQ TM e Portable Ultrasound Machine), using a 22 G x 80 mm echogenic needle. We used a curvilinear probe for the IPACK and a linear for the ACB. After negative aspiration, the local anesthetic mixture was injected in 2-mL increments while observing an adequate fluid spread.

For ten patients, the median Numeric Rating Scale (NRS) for rest pain was 0 at 24, 48, and 72 hours. The median

NRS for dynamic pain was 2 in the same time frame, respectively. Only two patients required breakthrough opioids due to inadequate control of dynamic pain, at 12 and 60 hours, for a total oral morphine equivalent (OME) of 200 and 100, respectively. Based on a 4-point Likert scale (1, dissatisfied; 2, slightly dissatisfied; 3, slightly satisfied; 4, satisfied), this approach resulted in adequate patient satisfaction [Table 1]. Block failure was reported in one case, requiring a second block 12 h later. One week later, patients were contacted to inquire about complications. None was reported.

There are three main methods to prolong the duration of regional anesthesia techniques: Include local anesthetic adjuncts, usually limited to 8 hours.<sup>[2]</sup> Continuous catheter infusions but requires an organized follow-up to decrease infection and migration risk. Sustained-release local anesthetic (liposomal bupivacaine), but it is expensive and not always available.

Although triamcinolone's physical and chemical compatibility with common local anesthetics and safe epidural use has been described,<sup>[3,4]</sup> it is usually reserved for chronic pain procedures.

We see many advantages with this approach: it is cheaper than liposomal bupivacaine. It is easier to perform than continuous catheter techniques and potentially safer than continuous infusions, and finally, it has a comparable long-lasting effect.

The presented cases illustrate the efficacy and usefulness of adding triamcinolone to ACB and IPACK blocks to manage

**Table 1: Summary of patient outcomes**

Recovery	Numeric Rating Scale (Rest/Dynamic)						OME 72 h	Time to first opioid dose (h)	Likert scale
	12 h	24 h	36 h	48 h	60 h	72 h			
0/0	1/1	0/0	0/0	0/0	0/0	0/2	0	NR	4
0/0	0/0	0/0	0/0	0/0	0/0	1/2	0	NR	4
0/0	2/3	2/3	0/0	0/2	0/2	0/2	0	NR	4
0/0	0/0	0/2	0/0	0/3	1/4	0/2	100	60	4
0/0*	0/0	0/3	0/0	2/4	0/3	3/6	0	NR	3
0/0	0/0	0/2	0/0	0/2	0/2	0/1	0	NR	3
0/0	0/0	0/0	0/0	0/0	0/2	0/2	0	NR	4
0/3	0/3	0/3	0/2	0/2	0/2	0/2	0	NR	4
0/0	0/0	0/0	0/0	0/0	0/2	0/2	0	NR	4
0/0	2/8	2/8**	0/4	0/2	0/8	0/8	200	12	2

BMI: Body mass index; \*\*Second ACB performed; NR: Not required; \*Patient with sequelae of poliomyelitis; OME: Oral morphine equivalent

postoperative pain in FTKR. Further studies are needed to clarify the optimal dose and safety profile, and to compare this technique's efficacy with other modalities such as liposomal bupivacaine.

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Nil.

### Conflicts of interest

There are no conflicts of interest.

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