Brief Communication

Post-operative analgesia regime following joint replacement

In the absence of a gold standard technique, different centers are known to follow varied post-op analgesia techniques following joint replacement surgeries based on their experience.

We report a case where a periarticular injection almost precipitated a cardiac event in our patient and altered our plans from a bilateral to a unilateral knee arthroplasty.

An 80-year-old female, American Society of Anaesthesiologists (ASA) grade two patient with history of controlled hypertension on ACE inhibitors was taken up for a B/L TKR (bilateral total knee replacement) under combined spinal epidural analgesia. The patient was haemodynamically stable when the surgeon chose to inject a cocktail of 20 ml of 0.5% bupivacane, 150 mcg of clonidine, 4.5 mg of morphine, 1000 mcg of adrenaline, 1.5 gm of Cefuroxime-sodium and 30 mg Ketorolac.

The cocktail was injected into the operative knee while the tourniquet was still on. We observed a gradual rise in the blood pressure (BP) and thought that this may be due to the wearing-off spinal effect. An epidural top up was given with 5 ml of 1% lignocane and 5 ml of 0.25% bupivacane.

To our surprise, while the patient did not complain of any discomfort, the BP tended to rise by 10 mmHg every 3 min. Ten minutes later, as soon as the tourniquet was deflated, we noted a sudden fall in oxygen saturation and an unexplained bradycardia.

The patient who was on propofol infusion for sedation was asked to take a deep breath, the SPO_2 probe was readjusted and it was confirmed that the saturation was less and the peripheral signal for the probe was weak. On checking the BP, we found that it had risen to 265 over 145; considering it to be incorrect, a repeat BP reading was taken, which showed a reading of 265 over 165, and we had an ST depression and T inversion in the standard leads.

The patient was put on nitroglycerine infusion, the BP was controlled and the second-site surgery was abandoned. Trop-T test was negative and a subsequent 12-lead electrocardiogram was found to be normal.

This was our first case with this post-op analgesia regime, and we found that it was hazardous and that the adrenaline dose was too high to be safe for patients of this age group.

We hereby conclude that although the efficacy of periarticular infiltration as a technique for post-operative analgesia for knee replacement has been proved,[1-4] its safety still needs to be critically reviewed in view of the facts that

1. All surgeons follow their own regimens
2. All regimes make use of adrenalin in varying doses
3. The surgery involves mostly geriatric patients with often borderline cardiac status
4. The effects of the regime used are not appreciated until the tourniquet is released
5. Analgesia thus provided cannot be prolonged[5]

While we agree that the use of periarticular infiltration as a part of a multimodal regime may reduce the narcotic consumption, the use of adrenalin and its dosage standardization and the potential risk for the patients in this age group limits its usefulness.

Prem Kakar, Vinod Gagrani, Umesh Deshmukh, Gurpreet Popli

Department of Anaesthesiology, Fortis Hospital, Shalimar Bagh, New Delhi, India

Address for correspondence:
Dr. P.N. Kakar,
Department of Anaesthesiology, Fortis Hospital, Shalimar Bagh, New Delhi, India.
E-mail: pn_kakar@hotmail.com

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