

## Regarding “Ultrasound Guided Femoral Nerve Block to Provide Analgesia for Positioning Patients with Femur Fracture Before Subarachnoid Block: Comparison with Intravenous Fentanyl” in *Kathmandu University Medical Journal* 2016;54(2):125-9.

Dear Editor of KUMJ

I read an article published in KUMJ in April-June 2016 Issue 54. This study had compared the effects of USG guided femoral nerve block with intravenous fentanyl.<sup>1</sup>

I wish to make some comments on that article. The dose of lignocaine [20 ml of 2%] used for femoral block was too high. It should have been lignocaine with adrenaline. Still I would say that it would be higher if any of the patient(s) were less than 60 Kg.

The sentence written in the introduction section, “Results are variable and a recent study has not been able to demonstrate its superiority in comparison to intravenous opioids.<sup>5</sup>” is not correct because the reference cited, was published in 2010.<sup>2</sup>

There were many studies published [from 2010 to 2016] that had observed that femoral nerve block was better than systemic opioids. The authors themselves quoted six of them in that article.<sup>1</sup>

How this sentence would be still relevant for 2016, while the reference article was published in 2010, and many studies,<sup>3-5</sup> subsequently established the fact that the femoral nerve block was superior to administration of opioids?

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### REFERENCES

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Dear Sir,

Thank you for your interesting comment in our article. We had written “in a recent study” and not “in many recent studies”. This statement would not mean that there were many studies that proved regional blocks were inferior. We only wanted to re-look into the findings put forward by Lamaroon et al.<sup>1</sup>

I would also like to comment on the dose of lignocaine.

Although the recommended maximum dose of lignocaine is 3-5 mg/kg, in clinical practice, this has often been exceeded. The infiltrated dose of local anesthetics has been found to be poorly co-related with actual plasma concentration.<sup>2</sup> This depends upon many factors:

1) Site of injection: This is a very important factor. For example, to achieve a plasma concentration of 5 mcg/ml of lignocaine (which is the minimum toxic level), 300mg of lignocaine is required for intercostal block, 600mg is required for brachial plexus block and 1000mg is required for subcutaneous infiltration.<sup>3</sup>

2)age

3)pregnancy

4)obesity

5)hepatic or renal impairment

6)any other factors that decrease the level of  $\alpha$ -acid glycoprotein

American College of Emergency Physicians has recommended a total dose of 20-30ml of 1-2% of local anesthetic solution for femoral nerve block.<sup>4</sup>

Cullivon P has also used 400 mg of lignocaine with epinephrine plus 100mg of bupivacaine for sciatic-femoral nerve block,<sup>5</sup> which clearly exceeded the recommended dose, especially if synergistic reaction was considered.

Montes FR also used 400mg of lignocaine (without epinephrine) plus 100mg of bupivacaine for sciatic-femoral nerve block.<sup>6</sup> Here also, the dose of lignocaine was excess while the average weight of their patients was 67±11 kg.

In both of the above studies, no local anesthetic systemic toxicity has been reported.

The validity of maximum recommended dose of local anesthetic solution has been questioned several times because of the ignored consideration of various factors to effect absorption, metabolism and elimination. The need of amendment to these recommendations has been pointed out in many literature.<sup>7-9</sup>

Thank you.

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