

The change in practice of limb peripheral nerve blocks at a central hospital over a five year period.

Nadine Venter (2219281)

Abstract

Background

The use of peripheral nerve blocks (PNBs) as an integral part of a multi-modal analgesic approach has increased in popularity since the advent of nerve stimulators and ultrasound. This study aimed to describe and compare the practice of limb PNBs in adult patients at Chris Hani Baragwanath Academic Hospital over two periods: 1 January – 31 March 2013 and 1 January – 31 March 2018.

Methods

This was a retrospective review of anaesthetic records using consecutive convenience sampling.

Results

In 2013 and 2018, 320 and 374 PNBs were done, respectively ($p=0.77$). PNBs done under general anaesthesia decreased, from 46.5% in 2013 to 32.0% in 2018 ($p=0.01$). Nerve stimulation use decreased from 50.3% of PNBs in 2013 to 20.0% in 2018, and ultrasound use increased from 13.1% in 2013 to 70.0% in 2018 ($p<0.0005$). There was an increase in saphenous, supraclavicular, axillary and wrist blocks in 2018 with decreased use of infraclavicular blocks ($p<0.005$). In 2013, the mean documented current endpoint was 0.421 mA versus 0.287 mA in 2018 ($p<0.0005$). The volume of bupivacaine used in 2018 for interscalene ($p=0.001$), infraclavicular ($p=0.47$) and sciatic blocks ($p<0.0005$) decreased. Adrenaline use decreased and dexamethasone use increased in 2018 ($p<0.0005$). In 2018, documentation of nerve localisation techniques used ($p<0.0005$), the current endpoint ($p=0.02$) and the volume of local anaesthesia ($p=0.014$) improved. Followup of patients improved in 2018 ($p<0.0005$).

Conclusion

There was no significant increase in the utilisation of PNBs from 2013 to 2018. However, the practice of PNB has changed significantly regarding nerve localisation technique, the type of PNB used, PNBs performed under general anaesthesia, adjuncts used, the volume of local anaesthetic used, follow up in the ward and documentation of PNBs. Even though challenges exist, the efforts made by championing anaesthesiologists have made an impact.