PERIOPERATIVE PAIN MANAGEMENT OF LIMB AMPUTATION – AUDIT RESULTS AND GUIDELINE

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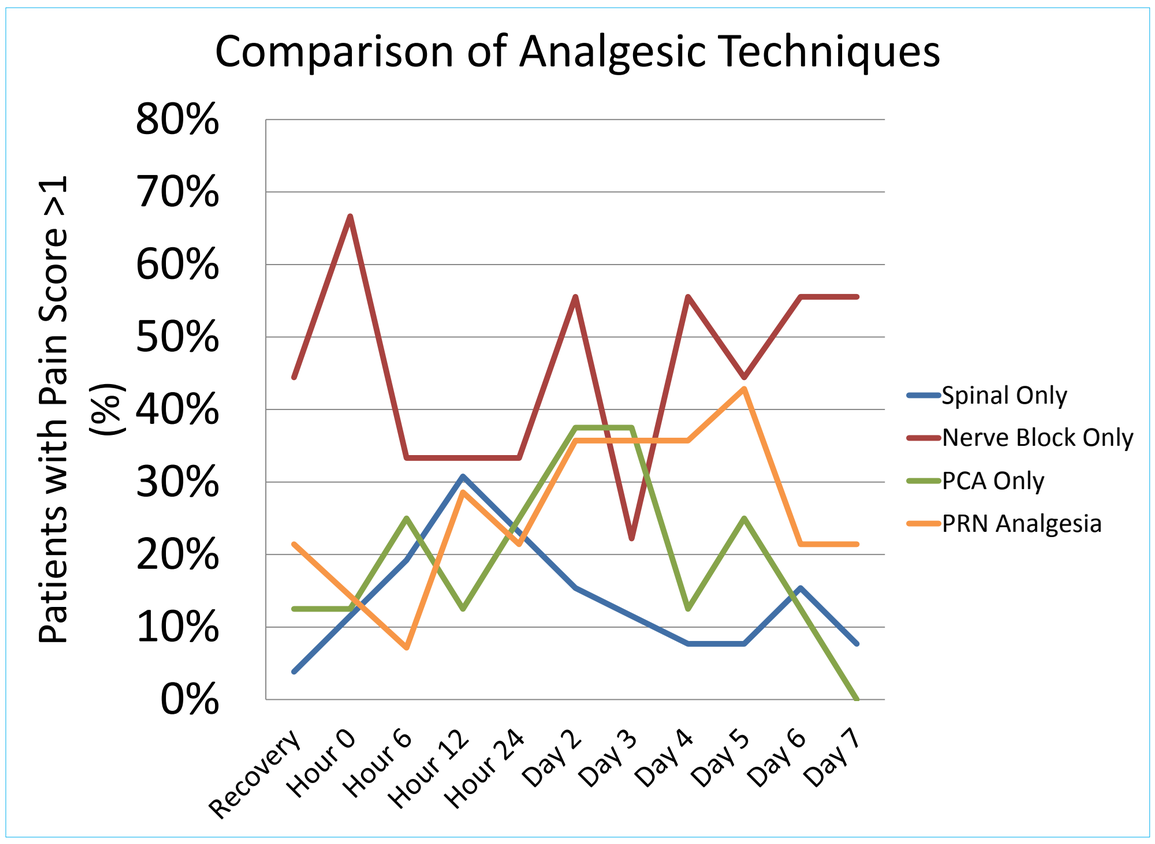
Background

- Lower limb amputation occurs with a frequency of between 5.8 - 31 per 10000 total population
- With the development of the Black Country Vascular Hub based at Russells Hall Hospital, the frequency of amputation within the Trust has increased markedly
- It is suggested that 50-85% of amputees go on to experience phantom limb pain (PLP)(1)
- Optimization of perioperative pain has been shown to reduce the risk of PLP
- The Royal College of Anaesthetists recommends as a standard that 'All patients should be pain-free at rest' in the postoperative period(2)

Audit and Rationale

- In 2012, a retrospective audit of 94 lower limb amputations undertaken in Vascular Hub highlighted poor postoperative pain control
- 74% of all patients experienced moderate or severe pain during the 7 days postoperatively
- Regional techniques provided better analgesia over the 7 day postoperative period compared to general anesthesia only
- Review of pain scores correlated with the anaesthetic and analgesic techniques utilised

Results



Recommendations

- The Lower Limb Amputation: Working Together report(2) found preoperative pain control was considered 'good' in 22.8% patients and review by the acute pain team preoperatively would have been appropriate in 50.3% patients
- NCEPOD recommended hospitals have an acute pain service with capacity to manage patients with both pre- and postamputation pain
- A perioperative pain pathway was introduced to improve analgesia for lower limb amputation in our Vascular Hub

Perioperative Analgesia Guideline

PREOPERATIVE REGIME:

- Once decision for amputation, contact Acute Pain Team to optimize preoperative analgesia
- Commence Gabapentinoids
  - Gabapentin (1st line)
    - If already prescribed, optimize dose – If previous treatment failed with Gabapentin, consider Pregabalin
  - Pregabalin (2nd line)
    - Initiate if fast onset is needed
    - Start at dose of 75mg bd, first dose in the immediate preoperative pain (2 hours prior to surgery)

INTRAOPERATIVE REGIME:

- Anaesthesia (GA/RA) – as per the anaesthetist choice
- Insertion of a perineural sciatic nerve catheter with an epidural catheter kit by surgeons +/- insertion of femoral nerve catheter with an epidural catheter kit or single shot femoral nerve block by the anaesthetist
- Initial intraoperative bolus of 10ml of 0.25% bupivacaine through both the catheters irrespective of mode of anaesthesia
- Continuous infusion – 0.2% Ropivacaine
  - Basal rate – 5ml/hr (10ml/hr if femoral + sciatic nerve catheters)
  - Bolus – 10ml of 0.2% Ropivacaine, 2 hour lockout
- PCA morphine if appropriate

POSTOPERATIVE REGIME:

- Gabapentinoids titrated to effect/side effects
- Postoperative day 4 – Trial cessation of sciatic nerve catheter infusion. If pain recurs, restart 0.2% Ropivacaine infusion after a bolus of 10ml of 0.2% Ropivacaine via the pump
- Postoperative day 6 - Repeat trial cessation

Conclusion

- A prospective audit is in process to evaluate improvements in patient outcomes and postoperative pain management

References

1. National Confidential Enquiry into Patient Outcome and Death (NCEPOD). Lower Limb Amputation: Working Together. November 2014
2. Neil M, Grant C, Shepherd V, Colquhoun L. Development of a best practice guideline for the prevention and management of acute phantom limb pain. Pain News 2014;12(2):113-118