**Efficacy of Perineural Catheters for Pain Management in Lower Limb Amputees**

BACKGROUND

Lower limb amputation is a common procedure associated with high peri operative pain scores. Research suggests that better perioperative pain management leads to a reduced severity of both postoperative and persistent pain. We are developing a guideline for such management within our trust and wanted to audit our current practice. One method of managing pain postoperatively is the use of a perineural catheter (PNC) administering local anaesthetic to the peripheral nerves of the lower limb.

AIMS AND OBJECTIVES

In this study, postoperative pain scores, opioid burden and length of stay of patients who had undergone an amputation with a PNC and without were compaired. Other anaesthetic techniques, such as use of spinal anaesthesia and general anaesthesia, were also taken into account. In addition, the incidence of PNC infection was identified. The aim of this was ultimately assess the efficacy of PNC in the pain management of lower limb amputees, with a view to developing a guideline for pain management in these patients.

METHODS

Patients who underwent lower limb amputation between 1st January 2019 and 31st March 2019 were identified. Patient notes were used to identify their pain scores perioperatively and their length of stay. Drug charts were used to identify opioid and gabapentinoid burden before and after surgery and the mean difference before and after surgery was calculated. Intra-operative notes were utilised to identify anaesthetic technique and analgesia given.

Mean pain scores for each patient post-operatively were calculated over a total of 7 days. For those who were discharged or died before Day 7 post-operation, their mean pain scores were calculated until their discharge or death. Other confounding variables, such as gabapentinoid use after surgery, peripheral nerve blocks, general anaesthesia and spinal anaesthesia were also analysed. Statistical analysis was performed using SPSS (IBM, 1.0.0.1246). A Multivariate Analysis of Variance (MANOVA) with a Tukey’s post-hoc test were utilised to compare means between the groups for each variable (Pain score, opioid burden and length of stay).

RESULTS

Results showed no PNC infection in these patients, something our Vascular Surgeons had been worried about. In addition, results illustrated no difference in length of stay or pain scores between non-PNC and PNC groups. However, results for opioid burden highlighted a statistically significant reduction in opioid burden in those who had received perineural catheter (p=0.042, n=12).  Interestingly, those who received spinal anaesthesia also appeared to have a smaller opioid burden after surgery compared to those who did not (p=0.015).

CONCLUSION

Future direction should focus on increasing the sample size of the population to assess the efficacy of PNC both alone and in conjunction with spinal anaesthesia. Opioids can be associated with significant side effects and increased recovery times. A technique that reduces their while offering effective pain relief is our ultimate goal. These results will be used to form the basis of the trusts new pain management guidelines for amputations.