Post-op pain in recovery: it's not always the anaesthetist's fault!

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Introduction

Postoperative pain is common morbidity of concern to patents and medical professionals alike. It is associated with many physiological, psychological and healthcare costs. It increases sympathetic drive and insulin resistance which impairs wound healing [1]. Psychologically, postop pain can lead to anxiety and sleep disruption; in the elderly, there is an increased risk of delirium [2]. Post-op pain is also associated with the development of chronic pain [3]. This significant morbidity results in longer hospital stays and readmission [4].

Multiple factors beyond anaesthetic technique influence the patient's experience of pain [2]. We examined our local PQIP data to determine the influence of patient, anaesthetic and surgical factors.

Methods

This retrospective study looked at 165 PQIP data entries on pain in the recovery. We excluded 41 patients due to either patient unable to provide pain score, missing data or incomplete data. Pain scores were stratified into two groups: the low pain group, with none to mild pain and the high pain, group moderate to severe pain. Data of patient demographics, surgical factors and anaesthetic technique were analysed and compared across groups.

Results

Patient Factors

A significant minority of patients experienced moderate to severe pain (37%). The average patient in this group was younger (60.8 years vs. 67.3), female (43% vs. 36%) and reported preoperative pain that adversely affected their mood (34% vs. 17%) or daily activities (28% vs. 23%). The strong influence of patient age and premorbid pain has been noted in other literature [3]

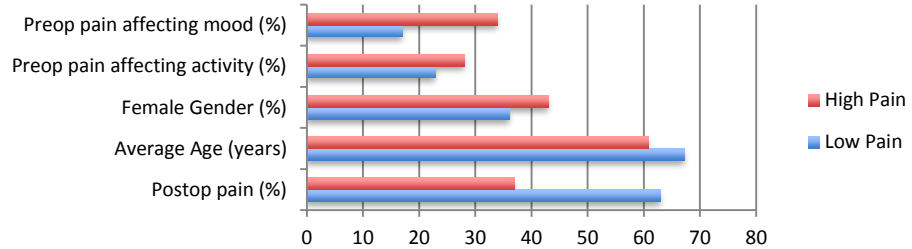

Figure 1: Summary of patient factors. Patients completed a pre-op questionnaire reporting whether they had pain that adversely affected their functional status or mood

Surgical Factors

All operations were performed with a consultant surgeon present. The high pain group were most likely to have undergone spinal or burns & plastics surgery. Surprisingly, length of stay and complication rate were both higher in the low pain group; 6.2 days v 5.2 days and a complication rate of 26% vs. 7%).

References: [1] Elhassan A, Ahmed A, Awad H, Humeidan M, Urman RD, Labrie-Brown CL, Cornett EM, Kaye AD. **Enhanced Recovery for Breast Reconstruction Surgery.** Curr Pain Headache Rep. 2019 Mar 14. [2] Schug, S.A., Palmer, G.M., Scott, D.A., Halliwell, R., Trinca, J., and APM: SE Working Group of the Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine. **Acute Pain Management: Scientific Evidence.** 4th edn. Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine, Melbourne; 2015. [3] Rakel, B.A., Blodgett, N.P., Zimmermann, M.B. et al. **Predictors of postoperative movement and resting pain following total knee replacement.** *Pain*. 2012; 153: 2192–2203. [4] Schug SA, Large RG. **Economic considerations in pain management.** Pharmacoeconomics 1993;3:260–7

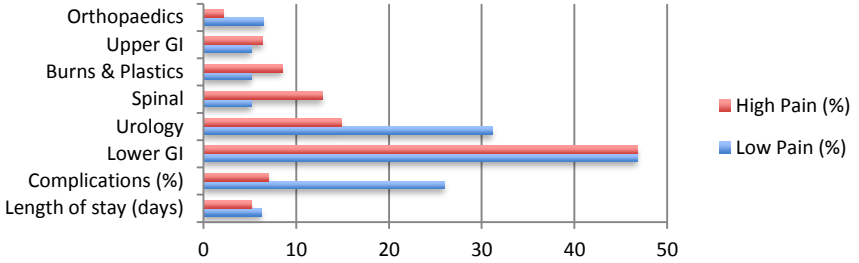

Figure 2: percentage of patients experiencing low or high pain according to surgical specialty

Anaesthetic Factors

In both groups, the majority of patients were anaesthetised by consultant (90% for low pain and 87% for high pain). All patients received similar combinations of general anaesthetic, IV analgesia and infiltration of local anaesthetic as summarised in figure 3.

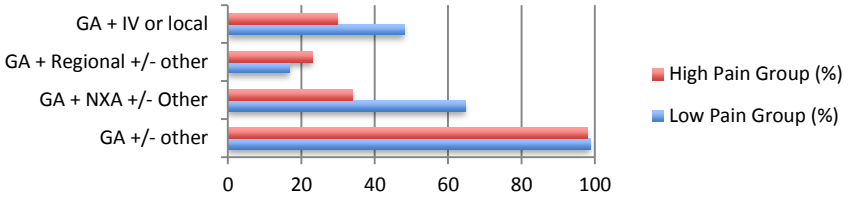

Figure 3: Comparison of anaesthetic techniques across the high and low postoperative pain group

A higher proportion of patients with low pain had neuraxial techniques (65% vs. 34%). A higher proportion of urological and spinal surgery in this group accounts for some of this difference. However, there is not a uniform rate of neuraxial blockage per surgical specialty across both groups as demonstrated in figure 4.

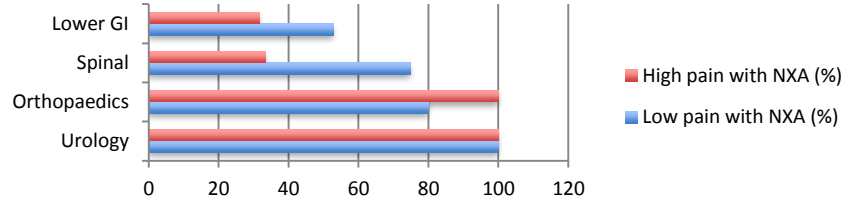

Figure 4: Comparison of patients receiving neuraxial blockage according to surgical specialty

Conclusions

This data demonstrates that key patient factors such as preoperative pain significantly contribute to post-op pain independent of the anaesthetic technique. However the influence of age was not as marked in our data as other studies [3]. Certain surgical procedures are at increased risk of post op pain which can only be partially mitigated by anaesthetic technique. The main anaesthetic difference between the two groups is the rate of neuraxial blocks. Confounding factors could include increased incidence of males undergoing urological procedures (fewer males in the high pain group) and that urological and orthopaedic surgery may be more amenable to neuraxial and regional anaesthetic techniques. The unexpected reduced length of stay and complications for the high pain group may be explained by this study being limited to recovery pain scores.