

Improving Elective Primary Knee Arthroplasty Analgesia: A Multidisciplinary Approach

Sarsam M¹, Moawia M¹, Veitch J¹
1. Nottingham City Hospital, Nottingham, UK

Nottingham University Hospitals NHS Trust

Introduction

All post-operative knee arthroplasty patients arrive on the ward with analgesia prescribed as per Nottingham University Hospitals Trust Enhanced Recovery After Surgery guidelines. After subjective observation of poor pain management post-operatively, a questionnaire was designed and distributed between March and June 2019. Deficiency in pain management was identified. Findings were discussed with Orthopaedic Consultants, Consultant Anaesthetists, senior nurses and the chief physiotherapist, consequently local guidelines were modified, junior doctors received education on analgesia prescribing and the audit was repeated between September and December 2019.

Method

A patient questionnaire was designed and distributed to 40 patients post primary knee arthroplasty. It was completed on the evening of day 1 after surgery and patients rated their overall pain, as well as their worst pain and timing, on a visual analogue scale of 1-10 (10 being worst pain imaginable). They were also asked if the pain has limited their engagement with physiotherapy. Patient drug charts were reviewed post discharge and all their analgesia during admission was noted and analysed.

After the initial study, local guidelines were revised, an education programme was undertaken then a further study was initiated.

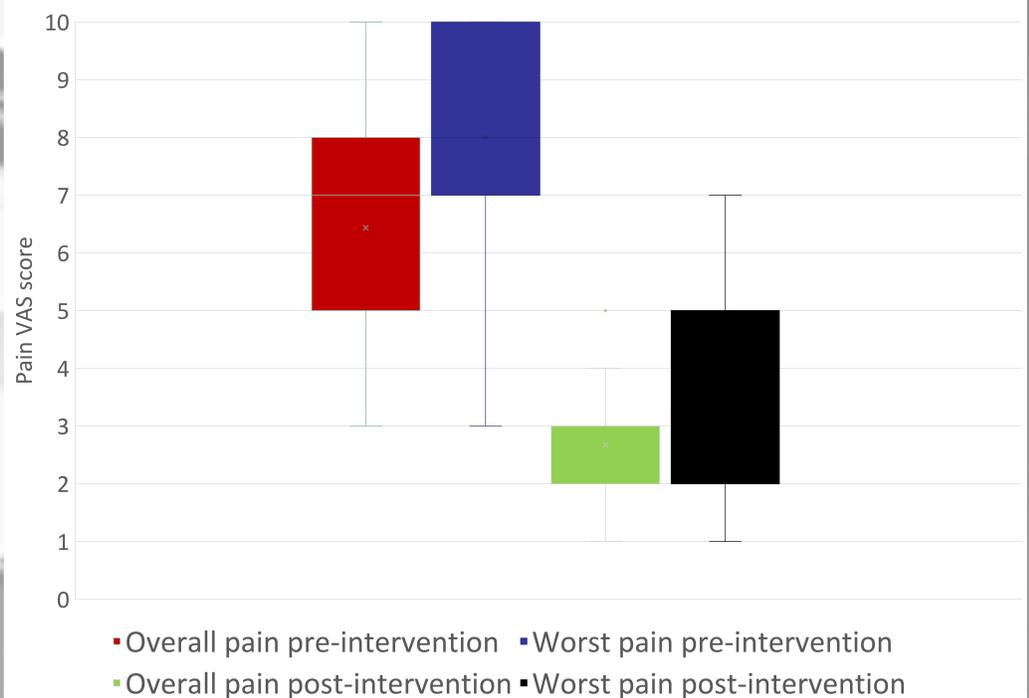
Results

Pain scores for worst pain were reduced from 8.0 (range 3-10) to 3.8 (range 1-7), while overall pain went down from 6.5 (range 3-10) to 2.7 (range 1-5).

Only 17.9% of patients thought pain compromised their physiotherapy engagement in comparison to 28% initially. The pain peak on the morning after surgery which was seen in the initial audit has been eradicated.

Despite only 28% of patients receiving NSAIDs in the re-audit, both audits show that in those patients who had at least 1 dose of NSAIDs had 25% lower pain score.

PAIN VAS SCORE IN PRIMARY KNEE ARTHROPLASTY PATIENTS

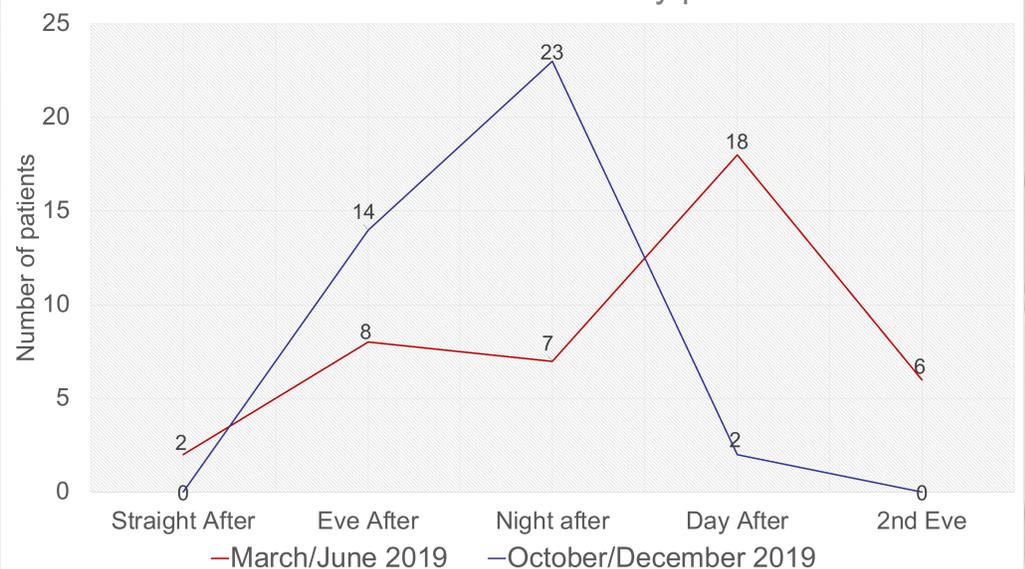


Graph 1

Implemented Changes

- Discourage the use of 5mg of long-acting oxycodone, starting dose of 10mg b.d.
- Diclofenac added to local analgesia guidelines and increased emphasis on NSAIDs
- Analgesia prescribing tutorial given to the new junior doctors on recommended analgesia and how to increase the dose to achieve safe but therapeutic pain relief
- Short acting opiate to be administered before physiotherapy to enhance pain management and increase engagement with physiotherapy

Time of maximal intensity pain



Graph 2

Conclusion

Adequate analgesia post primary knee arthroplasty is essential for pain management, improving compliance with physiotherapy and early discharge of patients post-operatively.

Timing of opiate analgesia and the use of NSAIDs can have a significant effect on post-operative pain management.