

A Comparison and Discussion of Modern Anaesthetic Techniques in Elective Lower Limb Arthroplasties

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Abstract : Introduction: The discussion regarding which method of anesthesia provides better results for lower limb arthroplasty is a continuing debate. Multiple meta-analysis has been performed with no clear consensus. The current recommendation is to use neuraxial anesthesia for lower limb arthroplasty; however, the evidence to support this decision is weak. The Enhanced Recovery After Surgery (ERAS) society has recommended, either technique can be used as part of a multimodal anesthetic regimen. A local study was performed to see if the current anesthetic practice correlates with the current recommendations and to evaluate the efficacy of the different techniques utilized. Method: 90 patients who underwent total hip or total knee replacements at Nevill Hall Hospital between February 2019 to July 2019 were reviewed. Data collected included the anesthetic technique, day one opiate use, pain score, and length of stay. The data was collected from anesthetic charts, and the pain team follow up forms. Analysis: The average of patients undergoing lower limb arthroplasty was 70. Of those 83% (n=75) received a spinal anaesthetic and 17% (n=15) received a general anaesthetic. For patients undergoing knee replacement under general anesthetic the average day, one pain score was 2.29 and 1.94 if a spinal anesthetic was performed. For hip replacements, the scores were 1.87 and 1.8, respectively. There was no statistical significance between these scores. Day 1 opiate usage was significantly higher in knee replacement patients who were given a general anesthetic (45.7mg IV morphine equivalent) vs. those who were operated on under spinal anesthetic (19.7mg). This difference was not noticeable in hip replacement patients. There was no significant difference in length of stay between the two anesthetic techniques. Discussion: There was no significant difference in the day one pain score between the patients who received a general or spinal anesthetic for either knee or hip replacements. The higher pain scores in the knee replacement group overall are consistent with this being a more painful procedure. This is a small patient population, which means any difference between the two groups is unlikely to be representative of a larger population. The pain scale has 4 points, which means it is difficult to identify a significant difference between pain scores. Conclusion: There is currently little standardization between the different anesthetic approaches utilized in Nevill Hall Hospital. This is likely due to the lack of adherence to a standardized anesthetic regimen. In accordance with ERAS recommends a standard anesthetic protocol is a core component. The results of this study and the guidance from the ERAS society will support the implementation of a new health board wide ERAS protocol.

Keywords : anaesthesia, orthopaedics, intensive care, patient centered decision making, treatment escalation

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020