affecting postoperative clinical outcomes, evidence regarding the relationship between spinopelvic alignment and the knee ROM or clinical outcomes after knee arthroplasty is lacking. We aimed to evaluate whether the anteroposterior alignment of the lower extremity and sagittal spinopelvic alignment affect the postoperative knee ROM and clinical outcomes after medial uncompartmental knee arthroplasty (UKA). Patients and Methods: Thirty-two patients (a total of 37 knees: 6 men, 7 knees; 26 women, 30 knees) who underwent navigation-assisted UKA were included in this retrospective study. Preoperative radiographic examinations of the anteroposterior hip-knee-ankle (HKA) angle were conducted and lateral spinopelvic parameters, including sagittal vertical axis, lumbar lordosis, sacral slope, pelvic tilt (PT), and pelvic incidence, were calculated. Correspondingly, the relationship of the knee ROM at 1 year after UKA and the postoperative new Knee Society Score (KSS) with radiographic parameters was investigated. Results: At 1-year post-UKA, the postoperative knee flexion angle was found to be significantly associated with the postoperative knee flexion angle (p = 0.041, 95% confidence interval [CI]: 0.025–1.141) and the preoperative HKA angle (p = 0.012, 95% CI: -2.377–0.342) in the multiple linear regression analysis. A knee extension restriction angle >10° was significantly correlated with the PT (p = 0.007, 95% CI: 0.772–0.959) in the logistic regression analysis. When the cutoff value of the PT was 24.5° for a postoperative knee extension restriction angle >10°, the sensitivity was 70.4% and the specificity was 100% based on receiver-operating characteristic curves. The PT in patients with postoperative knee extension restriction >10° (32.0° ± 6.6°) were significantly greater than that in patients with postoperative knee extension restriction <10° (19.3° ± 5.0°) (p = 0.001). There was no significant relationship between the KSS and the HKA angle or spinopelvic parameters. Conclusion: Patients with a greater posterior tilt of the pelvic alignment had restrictions in knee extension postoperatively. Moreover, those with a greater varus alignment of the lower extremity preoperatively had a lower knee flexion after UKA.

Category: Knee - Arthroplasty

Prospective Analysis of Surgeon Placed Nerve Block and Continuous Indwelling Catheter in the Adductor Canal In TKA

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Summary: The purpose of this study was to investigate the safety, efficacy, efficiency, and cost effectiveness of a novel surgeon placed single injection and catheter placement for a continuous regional nerve block in Total Knee Arthroplasty.

Data: Background: Total Knee Arthroplasty (TKA) can be a very painful surgery and traditionally has required parental opioid analgesics and an inpatient setting for 2-3 days. Significant improvements have been made in pain management over the past decade leading to a reduction in opioid use and decreasing the need for extended inpatient care. Regional block anesthesia has played a most predominant role in this regard. Methods: Fifty-six (56) patients were entered prospectively into a study cohort. Each patient underwent TKA by a single surgeon utilizing a novel surgeon placed single shot Adductor canal nerve block and placement of an indwelling catheter into the adductor canal through direct visualization of the muscles that make up the borders of the adductor canal. Patient reported outcomes were entered into an outcomes data base and then compared to an aggregate of over 3500 comparative TKA patients within the data base who did receive an ultrasound guided adductor canal block but did not receive the novel surgeon placed block and catheter placement. A Visual Analog Scale (VAS) was used to evaluate perioperative pain. Patient peroperative opioid usage, patient’s expectations of pain control, the incidence of common side effects, and average hospital length of stay (LOS) were also analyzed. Results: When compared to the aggregate of patients in the data base, the patients who received the novel surgeon block and catheter placement had a 24% reduction in total opioid pills used, (POD 1-7), 25% reduction in pain onVAS (3.9 to 2.9), 50% reduction in dizziness, 19% reduction in drowsiness, 88% reduction in vomiting, and a 62% reduction in nausea. Thirty-eight percent (38%) of these patients reported “Much less pain than expected” compared to thirteen percent (13%) of patients in the control aggregate. LOS for these patients was also reduced from an average of 2-3 days to 23 hours with one overnight in the hospital. There were no adverse effects associated with the novel surgeon placed block and catheter placement. Patient satisfaction was exceptionally high with Health Consumer Assessment of Health Profession and Services (HCAHPS) scores reported during this collection period at 97.2% (with a 2.8% adjustment mode). Conclusion: Using the placement technique described in this study, surgeons can reproducibly place a single injection and an indwelling catheter in the adductor canal through direct visualization of the muscles that make up the borders of the adductor canal. This indwelling catheter can provide a continuous nerve block for extended (4-5 days) pain relief. This technique for placement has potential advantages over other placement techniques with regards to safety, efficacy, and efficiency. When using the described technique in combination with a multi-modal pain management protocol, patients may experience significantly less pain, use less opioids, have a shorter hospital LOS, and have less side effects without jeopardizing physician quality scores and patient satisfaction. There is also the potential for significant cost reduction in a bundle payment scenario with additional anesthesia procedures eliminated. Study Design: Prospective comparative study: Level of evidence: 2

Category: Knee - Arthroplasty

Impact of Soft Tissue Balance of 2-year Outcomes in TKA

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Summary:
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