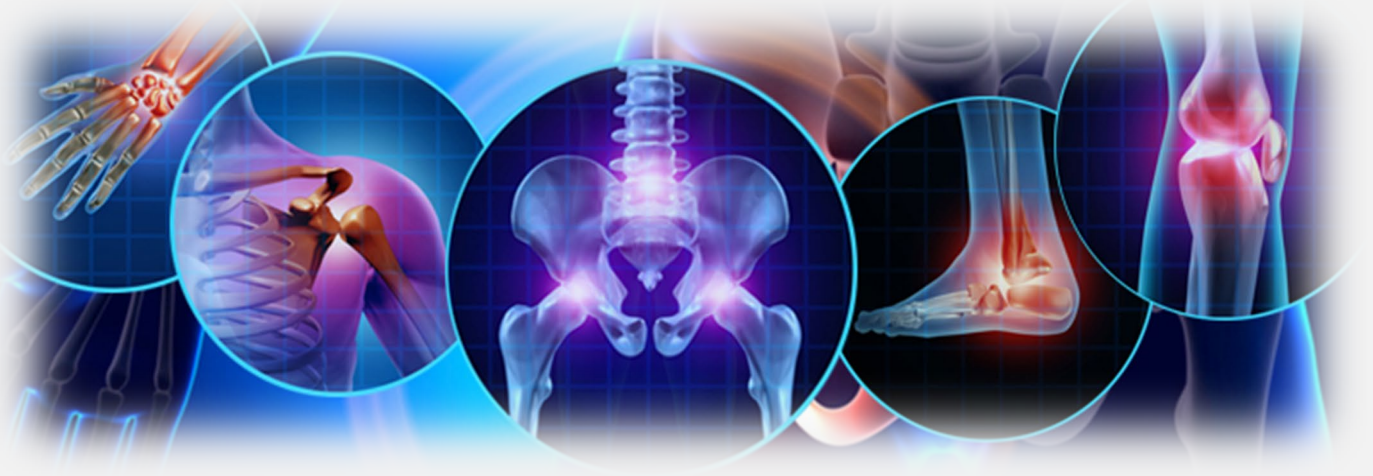


ORTHO NEWSCAST



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Dear Doctor,
Greetings from Micro Labs. We are happy to bring you "Ortho Newscast" which contains latest and interesting news in the field of Orthopaedics.

This issue contains

- Reduced post-operative opioid use decreases length of stay and readmission rates in patients undergoing hip and knee joint arthroplasty
- Decision making depending on X-Ray findings can have positive outcome for lateral condylar fracture

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,
Medical Team,
Micro Labs Limited



Reduced post-operative opioid use decreases length of stay and readmission rates in patients undergoing hip and knee joint arthroplasty

Background:

Proper pain relief is critical to postsurgical recovery and satisfaction of patients. Perioperative opioids for postoperative pain management is in much discussion. Opioid is associated with complications and increasing number of death which is known to increase length of stay in the hospital. Thus, the probe to explore mechanisms for treatment of pain in the effort to reduce opioid use. Multimodal analgesia uses different classes of analgesics, different sites of administration, single-drug therapy, with the advantages of decreased opioid & its complications. Some of them have successfully decreased postoperative stay in hospital.

Enhanced recovery protocols have bolstered adoption of multimodal analgesic regimens. These enhanced recovery protocols are associated with decrease in cost involved as also reduced length of stay in hospital for arthroplasty patients.

Having different components of care, it is rather difficult to figure out which interventions will be most effective for optimal outcome.

In this retrospective analysis, a large data set is used to look into the relationship between opioid use and length of post-operative stay and readmission rates for hip and knee joint arthroplasty patients in hospitals. These procedures are performed frequently and pain is generally managed with opioids.

Methods

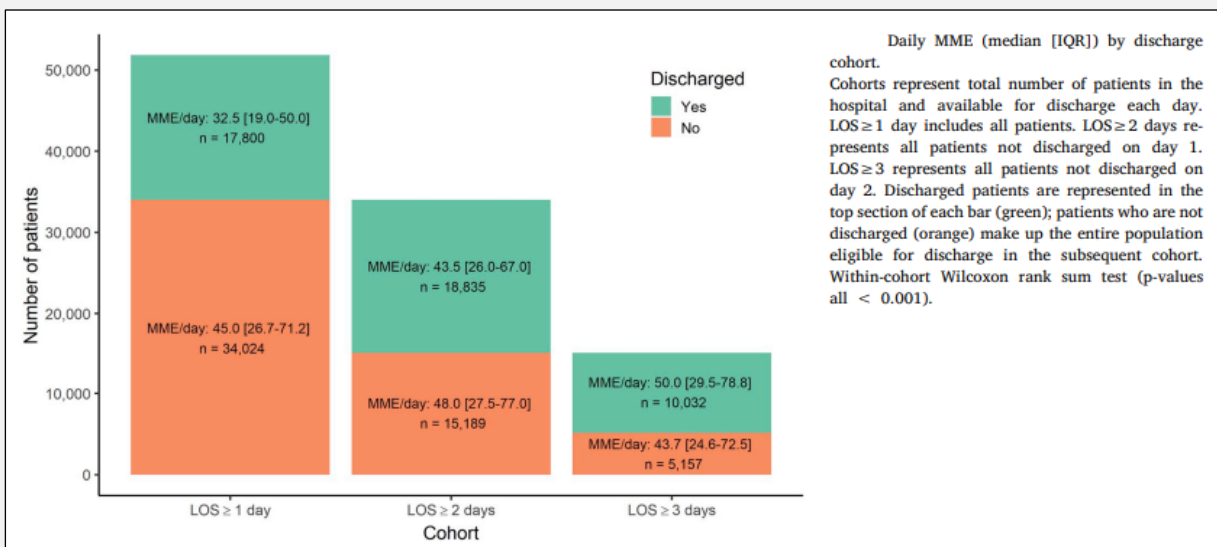
Data were obtained from the clinical data warehouse of a large healthcare system. 51,824 hip and knee arthroplasty encounters were enrolled. Patient encounters classified as hip or knee joint arthroplasty procedures with discharge dates between June 1, 2016 and March 24, 2019. A retrospective analysis was conducted on the patient data thus obtained.

Results

On analysis of the data obtained from patients who underwent arthroplasty of hip or, knee joint, overall, patients receiving treatment with lower doses of opiates had shorter median length of stay in the care facility ($p < 0.001$). This observed earlier discharge had no negative effects on rate of readmission of the patient.

Patients who were discharged on day 1 received lower dosage of administered morphine milligram equivalent (MME) per day than those who were not discharged on first post-operative day ($p < 0.001$).

The probability that a patient will be discharged on day 1 was 41.2% and 19.6% for those patients on lower against higher MME everyday. A reduction in odds of readmission of 15.2% was also noted in patients receiving lower doses of MME every day.

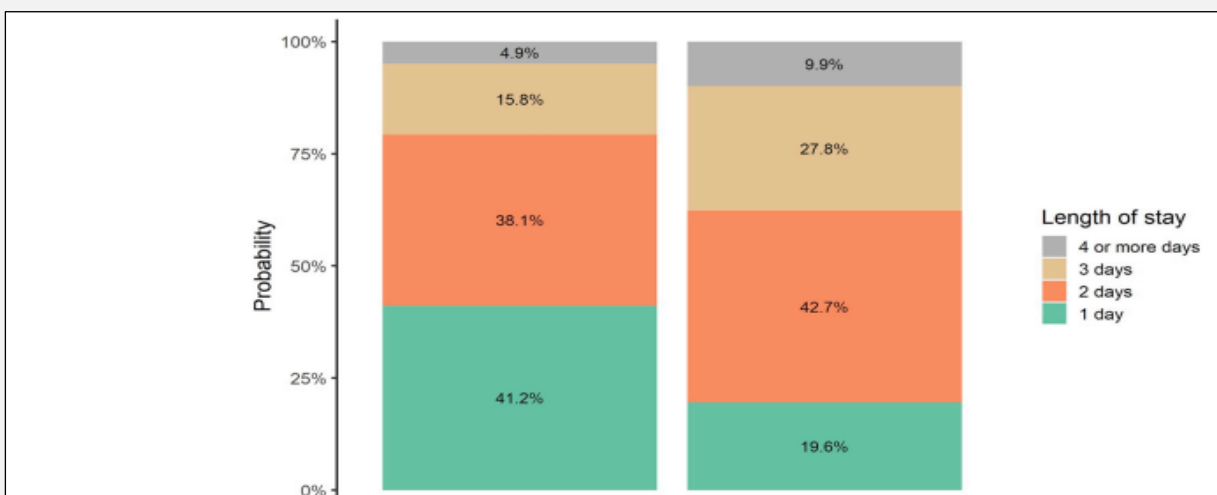


Odds of discharge on day 1. Odds ratios compare variables at level A & B, with A as reference/baseline value (indicated B:A).

Variable	Odds Ratio (95% CI)
MME Per Day - 64:23	0.35 (0.33-0.36)
Age - 74.5:61.4	0.49 (0.47-0.51)
Sex - M:F	1.48 (1.44-1.52)
Case Mix Index - 2.067:2.054	0.99 (0.99-1.00)
ASA Level	
ASA Level - 2:1	0.74 (0.66-0.84)
ASA Level - 3:1	0.53 (0.47-0.60)
ASA Level - 4:1	0.39 (0.33-0.46)
Diabetes - Yes:No	0.80 (0.77-0.83)
BMI - 35.1:26.6	0.92 (0.88-0.95)
Joint - Hip:Knee	1.19 (1.15-1.22)

Odds of readmission, variables ranked in decreasing order of predictor importance. Odds ratios compare variables at level A & B, with A as reference/baseline value (indicated B:A).

Variable	Odds Ratio (95% CI)
ASA Level	
ASA Level - 2:1	2.00 (1.03-3.89)
ASA Level - 3:1	3.48 (1.79-6.77)
ASA Level - 4:1	5.50 (2.73-11.12)
Length of Stay	
LOS - 2 days:1 day	1.06 (0.93-1.21)
LOS - 3 days:1 day	1.45 (1.26-1.68)
LOS - 4+ days:1 day	2.17 (1.85-2.54)
Age, years - 74.5:61.4	1.40 (1.22-1.60)
Case Mix Index - 2.067:2.054	1.01 (1.01-1.02)
Gabapentin - No:Yes	0.79 (0.72-0.88)
Sex - M:F	1.20 (1.09-1.32)
Joint - Hip:Knee	1.21 (1.09-1.33)
MME Per Day - 64:23	1.19 (1.07-1.32)





Conclusion

As a conclusion, to this retrospective study, it was found that the probability of earlier discharge postoperatively after knee or, hip joint arthroplasty and reduction in the odds of readmission were associated with receipt of lower dosage postoperative of opioids. This was seen in presence of components of enhanced recovery protocol. This throws light on the fact that programs which aim at reducing post-surgical opioid administration, may be associated with a positive effect on patient outcomes while limiting opioid exposure and the associated negative consequences.

References

Schlosser MJ, Korwek KM, Dunn R, Poland RE. Reduced post-operative opioid use decreases length of stay and readmission rates in patients undergoing hip and knee joint arthroplasty. Journal of Orthopaedics. 2020 Mar 24;21:88-93.

IN THE NEWS

Decision making depending on X-Ray findings can have positive outcome for lateral condylar fracture

Using radiographic fracture displacement to help in guidance of decision-making in a given case on the course of it's surgical and clinical management may have promising outcomes and comparable complication rate in patients of pediatric age group who present with lateral condyle fractures, is proposed by a recent research.

David L. Skaggs along with his colleagues were looking after 55 patients of pediatric age group who presented with lateral condyle fractures with either long arm casting, closed reduction and percutaneous pinning or open reduction and

percutaneous pinning based on the type of fracture incurred by them (i.e: type 1, type 2 or type 3 fracture).

The group researching on the issue assessed functional outcomes using pediatric outcomes data collection instrument at 6 weeks, 12 weeks and 1-year. The result of this research revealed that 31% of patients had type 1 fracture who were treated with a long arm cast. 15% of the enrolled patients had incurred type 2 fracture and was treated with closed reduction along with percutaneous pinning. 54% of the patients had presented with type 3 fracture & was subsequently treated with open reduction and percutaneous pinning.

The team of researchers noted delayed union in five patients. Pin site infection was seen in three patients postoperatively. Delayed union was seen in 6% of the study patients with type 1 fracture, 13% of patients with type 2 fractures and 10% of patients with type 3 fracture.

It was noted that 11% of the patients who underwent this study & had incurred type 2 and type 3 fractures also had delayed union that was fixed with K-wires, and had to undergo a second operation with screw fixation required among all patients.

When the patients presented after one year for their scheduled follow-up, there was no significant difference in pediatric outcome data collection instrument domains when this study population was compared to normative data.

By employing a simple classification system which is based only on fracture displacement seen on radiograph, orthopedic surgeons can administer treatment that will lead to normal functional outcome within 1 year after the treatment

References

Nazareth A, et al. ePaper 527. Presented at: American Academy of Orthopaedic Surgeons Annual Meeting; March 24-28, 2020



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