44600 - THE EFFECT OF COMBINED USE OF NALOXONE AND TRAMACET ON POSTOPERATIVE ANALGESIA IN ELDERLY PATIENTS UNDERGOING JOINT REPLACEMENT SURGERY: A PROSPECTIVE FEASIBILITY STUDY

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CAS Abstract: The effect of the combined use of naloxone and tramacet on postoperative analgesia in elderly patients having joint replacement surgery: a prospective feasibility study.

Introduction

This is a prospective feasibility study to determine opioid use during combined use of naloxone infusion and tramacet in patients 70 years and above scheduled for joint replacement surgery. Tramacet is a combination of tramadol and acetaminophen. Tramadol exerts its analgesic effects by opioid and non-opioid mechanism. The majority of its analgesic effect occurs by inhibition of the pre-synaptic uptake of the neurotransmitters norepinephrine and serotonin, inhibiting pain perception¹.

Naloxone, when given as an ultra low dose infusion (0.25ug/kg/hr), is analgesic, opioid-sparing, and also may reverse opioid side effects.^{2,3,4}

Methods

Following Research Ethics Board approval and written informed consent, 6 patients > 70 years scheduled for knee or hip arthroplasty were recruited. All patients received two tablets of tramacet preoperatively and 6 hourly thereafter for 5 days and Morphine via standardized PCA orders. All subjects received a spinal anesthetic with intrathecal morphine 0.2mg, 1.4ml 0.75% bupivacaine and intra-articular infiltration of 100ml ropivacaine 0.3% plus ketorolac 30mg intra-operatively. A naloxone infusion was started preoperatively at 0.25ug/kg/hr and continued for the duration of the patient's stay in hospital. Celebrex 200mg twice daily for 5 days was administered postoperatively. The Visual Analogue scale, Ramsey Sedation Score and the Mini Mental State Exam were used to assess pain, sedation, and confusion respectively every 6 hours. For comparison morphine use / day was collected in 6 patients > 70 years undergoing knee/hip arthroplasty who had received a similar multimodal analgesic regimen.

Results

Age	Sex	ASA	Surgery	Length of stay(days)	VAS1	VAS2	VAS3	Total Morphine use/ day (mg)	Complications
82	F	3	RTKA	5days	0/10	10/30	10/30	0.6mg/ day	Dizziness, Low Hb, CHF post-transfusion
80	M	2	RTKA	3days	40/60	15/41	home	3mg/day	nausea
75	F	2	RTKA	3days	22/84	13/40	home	15.3mg/day	0
75	M	2	RTHA	4days	26/55	19/46	10/43	4.75mg/day	0
74	F	2	RTHA	9days	70/90	05/46	15/34	3mg/day	Heamatoma lower leg Allergy to morphine . LOC after PCA use of Hydromorphone X2, continued on fentanyl PCA
75	M	2	RTHA	4	0/25	0/25	0/11	0	Transiently diaphoretic from supine to erect position

The mean number of mg of morphine-equivalents /day in the knee arthroplasty group was 27 ± 7.1 mg. versus was 2.9 ± 2.8 mg in the study patients ($P = 0.005$) The mean number of mg of morphine-equivalents in the hip arthroplasty group was $13 \text{mg} \pm 11.5$ versus $1.8 \text{mg} \pm 1.6$ in the study group ($p = 0.15$).

Sedation or confusion did not occur in any of the patients , and earlier independent ambulation was noted.

Conclusion

Post-joint replacement opioid use has been reduced substantially by this regime . There was no episode of sedation or respiratory depression and an unanticipated finding of greatly improved mobility postoperatively. This is a very small group, and the study is not blinded but the results of this analgesic regimen are highly encouraging.

The next step is to undertake a prospective blinded randomized control trial to verify these results.

References

- 1.Am J Med 1996;101(1A suppl): 1A-45S
- 2.Anesthesiology 1997;87:1075-81
- 3.Nature 1979;278:740-1
- 4.Anesth Analg 2005;100:953-8