INTRAOPERATIVE PAIN MANAGEMENT IN SPINAL TUMOR ABLATIONS IMPROVES POSTOPERATIVE RECOVERY

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BACKGROUND

Postoperative pain is one of the main adverse outcomes reported by patients following surgical procedures. It can prolong a patient's stay in the postoperative care unit (PACU), increase the need for higher doses of opioid medications postoperatively, and cause significant distress to patients[1]. Multimodal analgesia is currently recommended for effective postoperative pain control and has been shown to decrease the requirement for postoperative analgesics in different surgical procedures[1]. Multimodal analgesia is achieved by combining analgesics that have different mechanisms of action. These include medications such as opioids, nonsteroidal anti-inflammatory drugs (NSAIDs), and local anesthetics. This results in additive or synergistic analgesia, which leads to lower total doses of analgesics and fewer side effects[1].

Patients postoperative comfort depends largely on the intraoperative experience. Medications can be administered by the anesthesiologist during a surgical procedure that can improve a patient's postoperative course[2]. Specifically, in this study, our focus is on vertebral augmentation following radiofrequency ablation. Combination vertebral augmentation and radiofrequency ablation is a minimally-invasive option for treating painful osseous metastases in the vertebrae that are incompletely palliated with radiation therapy[3].

This study examines the administration of multiple different analgesics intraoperatively during a vertebral augmentation with radiofrequency ablation and how these analgesics affect the patient's pain medication consumption postoperatively, as well as their length of stay in the PACU.

METHODS

A subset of 28 patients undergoing vertebral augmentation with radiofrequency ablation were evaluated. As long as there were no contraindications, patients were given a 4 drug regimen consisting of: 8 mg of Decadron, 1g of IV Tylenol (Ofirmev), 30mg of Toradol, and 1g of Robaxin intraoperatively. From our study sample, 13 of the patients received the full medication regimen intraoperatively. 9 patients received part of the medication regimen intraoperatively, but not all 4 medications. 6 of the patients did not receive any of the medications listed above.

The patients were monitored in the PACU following their surgical procedure. PACU medication consumption and duration of stay were evaluated by nurses in the PACU. The nurses determined if the patient needed medications post-operatively by asking the patient to rank their pain on a 1-10 pain scale. Pain medicine was given to patients as needed. Duration of stay in PACU for each patient was recorded by the nurses as either less than 1 hour or greater than 1 hour.

Table 1.Pain Medication Consumption and PACU Recovery Time

	PAIN MEDICATION GIVEN IN PACU		PACU RECOVERY TIME	
	Yes	No	<1 hour	>1 hour
4 DRUG MEDICATION REGIMEN	0	13 (81%)	13 (68%)	0
PARTIAL MEDICATION REGIMEN	7 (58%)	2 (12.5%)	3 (16%)	6 (66%)
MEDICATION REGIMEN NOT GIVEN	5 (42%)	1 (6%)	3 (16%)	3 (33%)

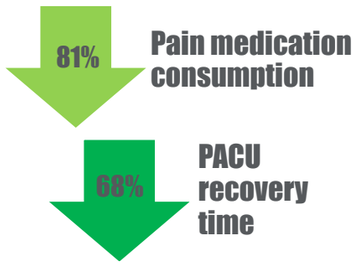
RESULTS

Postoperatively, nurses in the PACU assessed the patients' severity of pain using a 1-10 pain scale and determined their need for additional pain medication. 16 patients (57%) didn't need additional pain medication in PACU. Of these 16 patients, 13 patients (81%) were administered all 4 medications intraoperatively, 2 patients (12.5%) were administered some of the medications intraoperatively, and 1 patient (6%) did not get any of the 4 medications intraoperatively.

12 patients (43%) were given additional pain medication in the PACU. Of the 12 patients, 7 patients (58%) were administered at least one of the 4 medications intraoperatively, and 5 patients (42%) did not receive any of the medications.

19 patients (68%) stayed in the PACU for less than an hour after their surgical procedure. Of these 19 patients, 13 patients (68%) were administered all 4 medications intraoperatively, 3 patients (16%) were administered part of the medication regimen intraoperatively, and 3 patients (16%) did not get any of the 4 medications.

9 patients (32%) stayed in the PACU for greater than an hour. Of these 9 patients, 6 patients (66%) were administered part of the medication regimen intraoperatively, and 3 patients (33%) were not administered any of the 4 medications.



CONCLUSIONS

1. Giving a patient multimodal analgesia intraoperatively can reduce pain medication consumption postoperatively and decrease the patient's recovery time in PACU.
2. The results show that the patients who received all 4 medications intraoperatively did not need to receive additional pain medication in the PACU. Additionally, all 13 patients that were administered the full medication regimen intraoperatively were in the PACU less than an hour.
3. Decreasing the need for additional pain medications postoperatively can decrease the risk of side effects and drug interactions.
4. Reducing PACU time for patients is a potential cost benefit for the hospital and make this an appealing medication regimen for interventional pain procedures.

REFERENCES

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