

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the efficacy of IV Acetaminophen usage in post operative spine patients 2) Discuss the need for adjuncts to narcotics as pain control and need for further investigation

Introduction

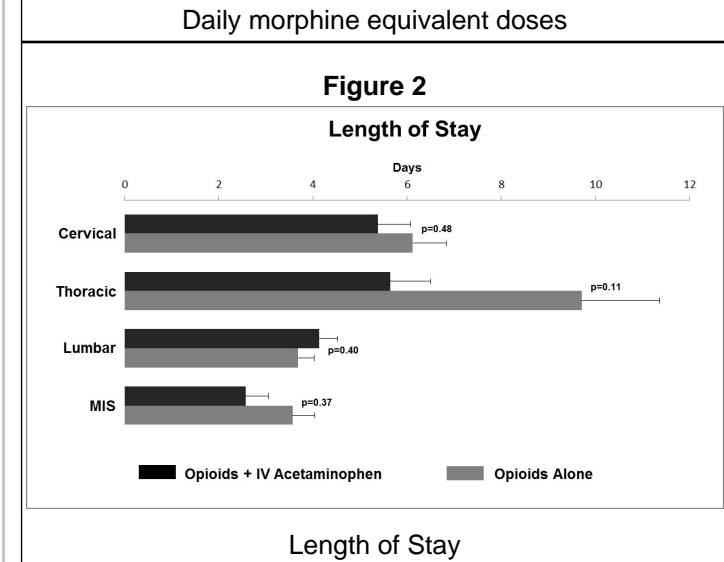
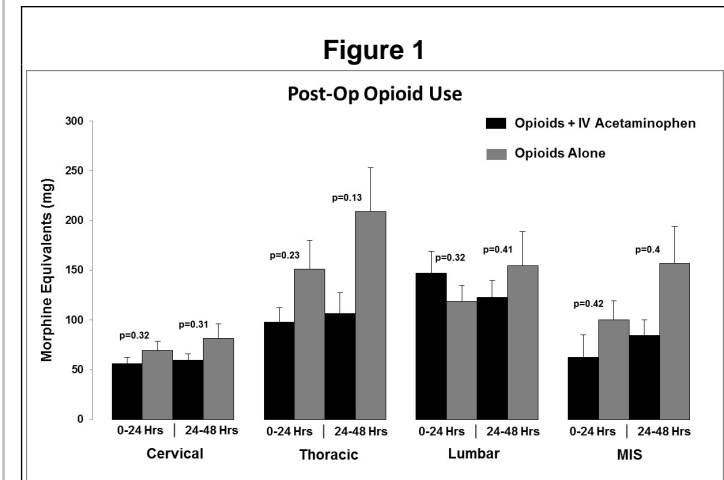
Narcotics are the staple of post-operative analgesia; however they are not without adverse effects including nausea, vomiting, constipation and respiratory depression. Some studies have suggested intravenous acetaminophen (IV APAP) as a desirable supplement to opiate based analgesia, due to its decreased drug reaction profile. In a retrospective case-control study, we examined the effect of intravenous acetaminophen on opiate use over forty eight hours post-operatively, as well as length of hospital stay and adverse drug reactions.

Methods

The charts of patients who received spinal surgery between 12/2011 and 8/2015 were analyzed. Three hundred and eight six (386) patients were included in the final analysis. Post-operative opioid dosages were converted to morphine equivalent doses (MED) for standardization. MED were determined for the period of 0-24 hours post-op (POD1) and 24-48 post-op (POD2).

Results

Among those undergoing cervical procedures, length of hospital stay (LOS) (figure 2) and opioid usage on POD1 and POD2 (Figure 1) were not significantly different between those receiving IV APAP and those who did not in (LOS: 5.38±0.69 vs. 6.12±0.71, p=0.48, POD1: 56.08±6.52 mg./day vs. 69.45±9.49 mg/day, p=0.32, POD2: 59.28±6.76 vs. 81.37±14.51) Similar results were observed for thoracic (LOS: 5.64±0.86 vs. 9.71±1.65, p=0.11, POD1: 97.64±14.81mg/day vs. 151.14±28.86 mg/day, p=0.23, POD2: 106.61±20.72 mg/day vs. 208.85±44.02 mg/day, p=0.13) and lumbar procedures (LOS: 4.14±0.39 vs. 3.69±0.34, p=0.40, POD1: 146.88±27.26 mg/day vs. 118.72±16.34 mg/day, p=0.32, POD2: 122.74±16.90 mg/day vs. 154.35±34.57 mg/day, p=0.82). One episode of clinically significant constipation attributed to opioids and requiring change in management was noted in the control group. No significant drug reactions were noted in the treatment group.



Conclusions

Our study is the largest to date to examine the role of IV APAP in neurosurgical spine patients. And, although smaller studies have suggested a role for IV APAP in the management of post-op pain, we observed no significant difference in length of stay or decrease in opioid usage. However there was a trend suggesting that acetaminophen can decrease opioid consumption and length of stay. A larger randomized trial may clarify this issue.