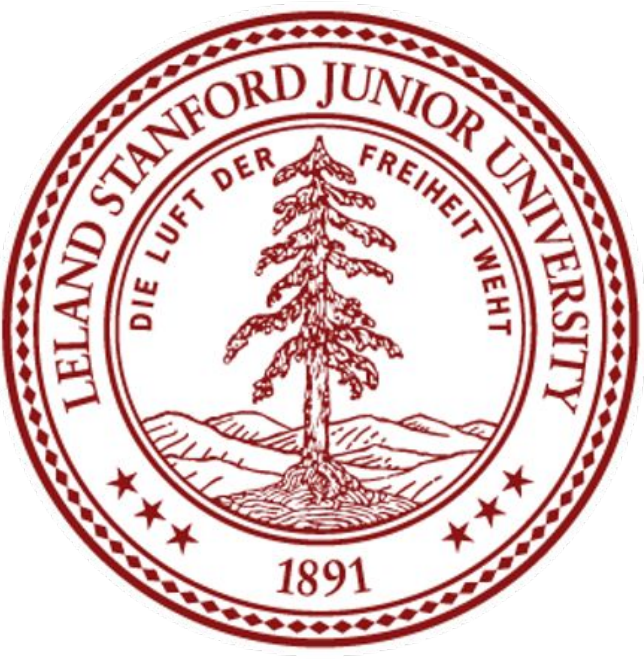




A Single Institution Cohort Analysis of Hypotension and Pain Control After Epidural Placement for Whipple Procedure.

Sara Kianian, MD¹, Gavin Hui, MD², Casey St. Luce, MD², Honor Magon, MBBS², Jananee Muralidharan, MD², Anuj Aggarwal, MD¹

1.Department of Perioperative, and Pain Medicine, Stanford Health Care, Palo Alto, CA

2.Atropos Health, Inc.



Introduction

Postoperative pain can cause delayed recovery and increase the risk of developing chronic pain conditions¹. The Enhanced Recovery after Surgery (ERAS) guidelines include multimodal strategies to reduce long-term sequelae of postoperative pain². ERAS guidelines for Whipple procedures have strong recommendations for placement of thoracic epidurals alongside multimodal strategies³. Epidurals can reduce gastrointestinal dysfunction, pulmonary infections and overall complications compared to opiates alone⁴, but can also be associated with hypotension which can limit surgical healing⁵.

Materials/Methods

This retrospective cohort analysis aimed to evaluate the incidence of hypotension in patients undergoing a Whipple procedure who did and did not receive an epidural for analgesia in accordance with the ERAS pathway. This search was performed at our single institution, from January 2014 until August 2024. Our population of interest was adult patients aged 18 years or older undergoing Whipple surgery with data analysis started on the day of procedure. The intervention of interest was receipt of epidural within a 24-hour window from surgery. The control group included those who did not receive an epidural within 24 hours of surgery. Our outcomes of interest were episodes of systolic blood pressure (SBP) < 100 on at least 2 incidences within 1-3 days post-surgery. As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per Stanford Healthcare policy.

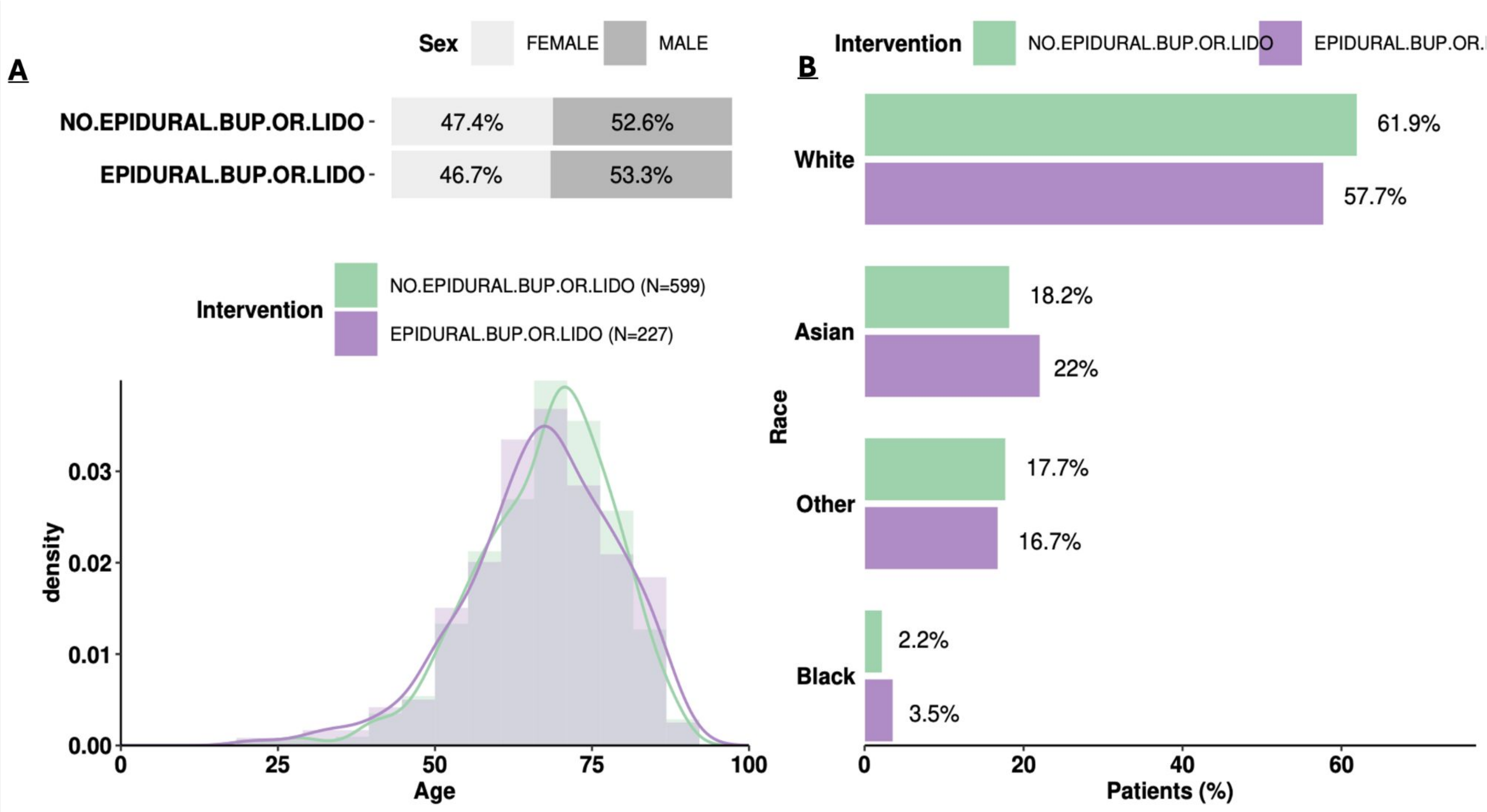


Fig 1. A- demographic plot of sex vs. epidural, and B - race vs. epidural

Results

A total of 227 patients received an epidural with an infusion of bupivacaine or lidocaine (46.7% female), while 599 did not receive an epidural (47.4% female). This study found no statistically significant difference in the incidence of hypotension that occurred within 5 days of surgery between the group with an epidural versus without. Pain scores within 5 days post-surgery were also significantly lower in the epidural group (MD: -1.4, P< 0.001).

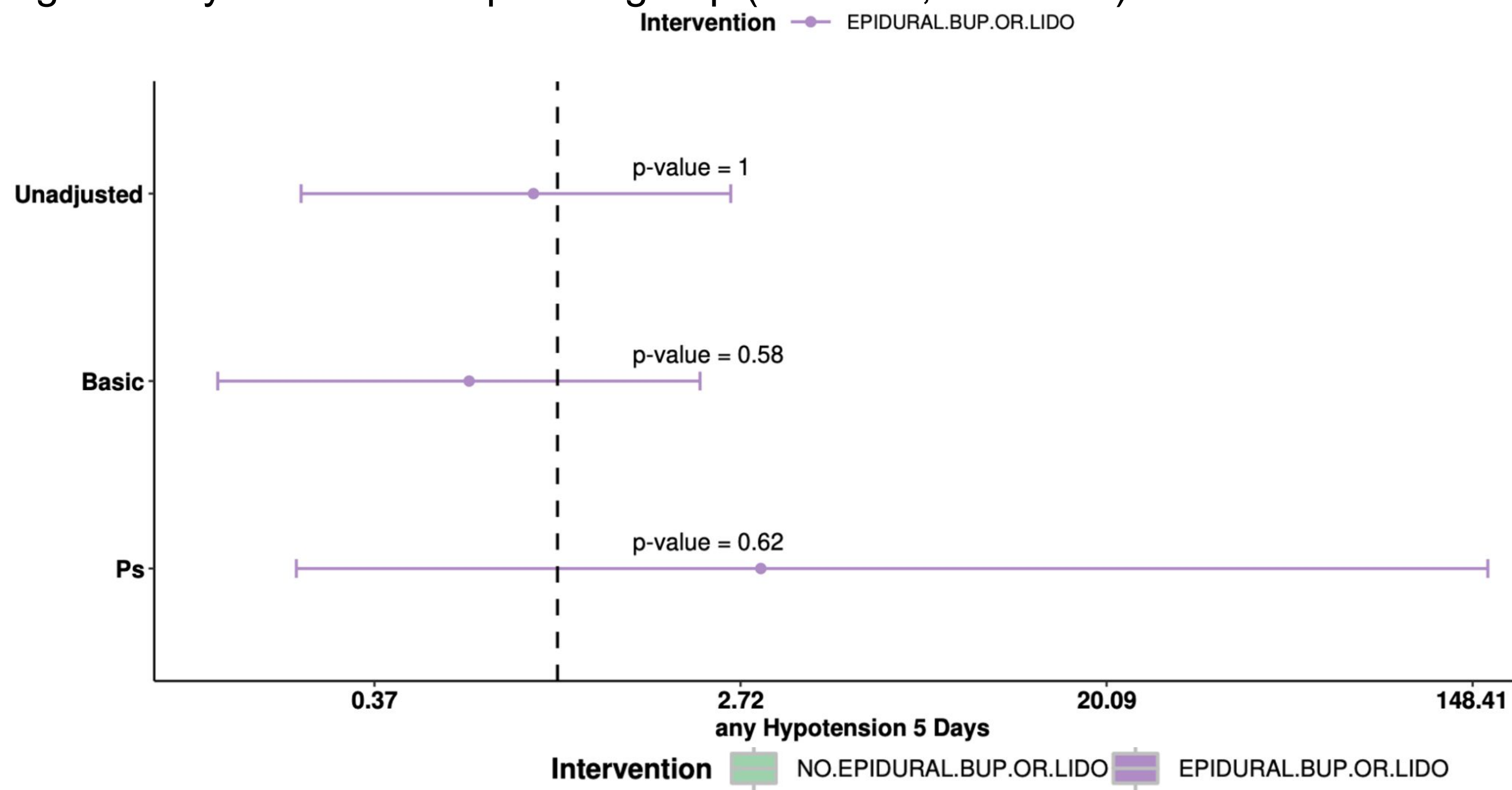


Fig 2. Hypotension in the first 5 days after Whipple procedure, epidural versus no epidural

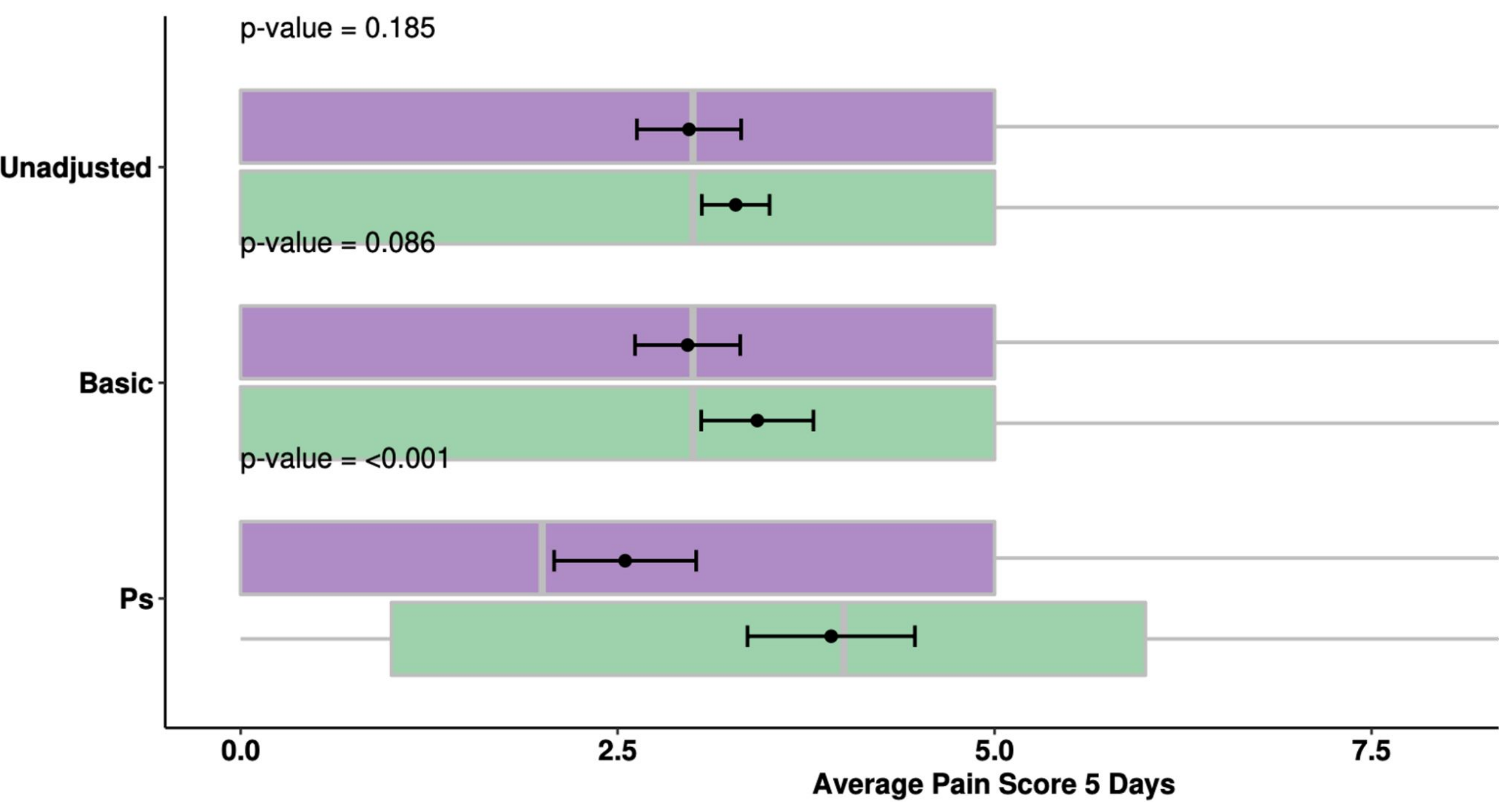


Fig 3. Pain scores in epidural versus no epidural groups

Conclusions

Hypotension associated with epidurals is often a major concern when planning for large surgical cases, including Whipple procedures, often leading to hesitation around their placement in the pre-operative period. Our data suggests no significant increase in rates of hypotension in patients who received epidurals for pain control, thus suggesting epidurals may not only be safe for patients, but can improve overall pain control and recovery after major abdominal surgeries.

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