

continue to drive toward our short term goals and will later compare before and after rates of phantom limb pain.

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### #36332 OPIOID- SPARING ANESTHESIA/ANALGESIA IN COMPLEX INTRA-ABDOMINAL SURGERY: A CASE REPORT

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10.1136/rapm-2023-ESRA.604

Please confirm that an ethics committee approval has been applied for or granted: Yes: I'm uploading the Ethics Committee Approval as a PDF file with this abstract submission

Application for ESRA Abstract Prizes: I don't wish to apply for the ESRA Prizes

**Background and Aims** Opioids are widely utilized agents for pain control, both intraoperatively and postoperatively. However, due to the abundance of adverse effects associated with their use such as nausea, vomiting, respiratory depression, ileus, delayed gastric emptying and pruritus, the use of opioid-sparing and opioid-free techniques have gained growing interest as part of a multimodal analgesic approach. In this context and in the era of an ever-increasing opioid epidemic, regional anesthesia and analgesia techniques are an interesting supplementary alternative aiming at minimizing opioid use.

**Methods** In this report, we present the use of an opioid-free general anesthesia modality in conjunction with a thoracic epidural technique in an elderly patient with comorbidities who underwent pancreatoduodenectomy. The anesthetic technique was based on the Mulier protocol. In specific, 0.1 mcg/kg dexmedetomidine, 0.1 mg/kg ketamine and 1 mg/kg lidocaine were administered as a bolus, followed by a continuous infusion of a mixture of dexmedetomidine 0.1 mcg/kg/h, ketamine 0.1 mg/kg/h and lidocaine 1 mg/kg/h throughout the operation. Before skin incision, an additional bolus of ketamine 0.5 mg/kg was administered, followed by 40 mg/kg of magnesium and 8 mg of dexamethasone. The anesthetic was supplemented by a low thoracic epidural. Intraoperatively and postoperatively, complete avoidance of opioids was achieved.

**Results** We demonstrated a paradigm of complete avoidance of systemic intravenous administration of opioids intraoperatively and postoperatively in an elderly patient with comorbidities scheduled for pancreatoduodenectomy.

**Conclusions** An opioid-free anesthetic is feasible and can be delivered successfully even in open gastrointestinal surgical procedures, where analgesia has traditionally relied on the use of opioids.

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### #35053 EXTERNAL OBLIQUE INTERCOSTAL FASCIAL PLANE BLOCK FOR PATIENTS UNDERGOING LIVER TRANSPLANTATION: A CASE SERIES

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10.1136/rapm-2023-ESRA.605

Please confirm that an ethics committee approval has been applied for or granted: Not relevant (see information at the bottom of this page)

Application for ESRA Abstract Prizes: I apply as an Anesthesiologist (Aged 35 years old or less)

**Background and Aims** In patients undergoing liver transplantation, postoperative pain control can be challenging since a neuraxial block is contraindicated with ongoing coagulopathy. This led us to investigate the utility of ultrasound-guided external oblique intercostal (EOI) blocks in this patient population. Local anesthetic is injected in the fascial plane between the external oblique and intercostal muscle at the T6 and T8 levels, bilaterally, for somatic coverage of the 'chevron' incision. Here, we present a small comparative case series.

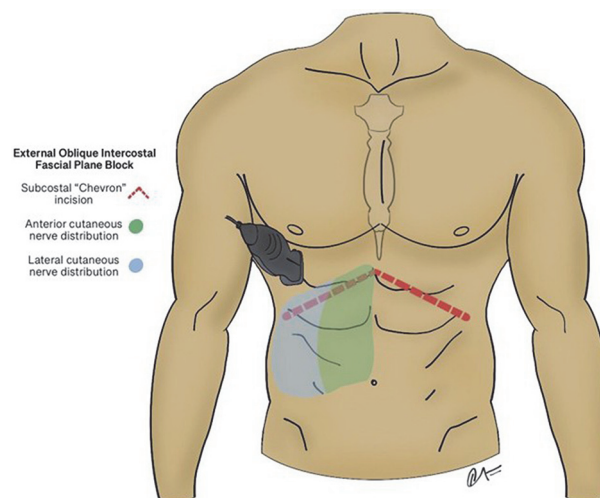
**Methods** This is a retrospective chart review comparing the postoperative opioid utilization of five patients with and without the EOI block.

**Results** The average oral morphine equivalents (OME) for POD 0, 1, 2, and 3 were 39mg, 70.5mg, 28.4mg, and 12.3mg in the EOI group and 71.8mg, 109.1mg, 85.5mg, and 53.5mg in the control group (table 1).

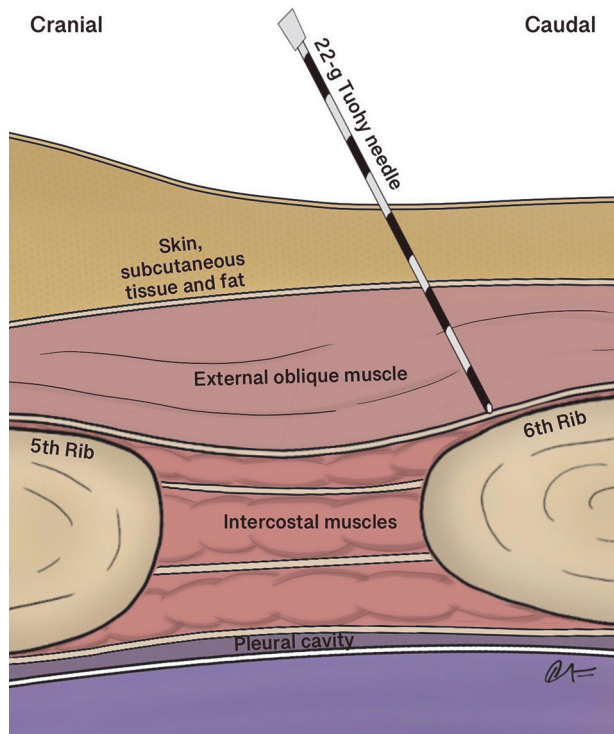
Abstract #35053 Table 1 Comparing the postoperative opioid utilization of five patients with and without the EOI block

Case series	Patient group	POD 0 (OME)	POD 1 (OME)	POD 2 (OME)	POD 3 (OME)
Patient 1	Block	20 mg	85 mg	59.5 mg	24 mg
Patient 2	Block	0 mg	7.5 mg	7.5 mg	7.5 mg
Patient 3	Block	52 mg	102.5 mg	45 mg	15 mg
Patient 4	Block	95 mg	82.5 mg	0 mg	0 mg
Patient 5	Block	28 mg	75 mg	30 mg	15 mg
Average consumption of OME in Patients 1 - 5		39 mg	70.5 mg	28.4 mg	12.3 mg
Patient 6	Control	140 mg	145 mg	52.5 mg	60 mg
Patient 7	Control	34 mg	80 mg	90 mg	60 mg
Patient 8	Control	100 mg	152.5 mg	110 mg	55 mg
Patient 9	Control	20 mg	110 mg	130 mg	40 mg
Patient 10	Control	65 mg	58 mg	45 mg	52.5 mg
Average consumption of OME in Patients 6 - 10		71.8 mg	109.1 mg	85.5 mg	53.5 mg

All 10 patients were extubated in the operating room at the conclusion of surgery. Patients 1 - 5 received a bilateral external oblique intercostal nerve blocks at T6 and T8 with 20 mL of liposomal bupivacaine and 30 mL of 0.25% bupivacaine. Patients 6 - 10 did not receive any regional anesthetic. Patients 1-10 were all started on hydromorphone PCA on POD 0 per institutional liver transplant protocol. POD - Post operative day, OME - Oral morphine equivalents, Mg - Milligram.



Abstract #35053 Figure 1 This animation depicts the location of a typical subcostal 'chevron' incision along with ultrasound probe placement for the EOI fascial plane block. The expected sensory distribution of blockade is seen extending from midline to the lateral abdomen from anesthetizing the lateral and anterior cutaneous branches of the intercostal nerves. Illustrator: Kishan Patel, MD



**Abstract #35053 Figure 2** This animation depicts the relative anatomy for the EOI fascial plane block. Note that the origin of the external oblique muscle is at the external surface of ribs 5 through 12. The tip of the Tuohy needle can be seen at the fascial layer between the external oblique muscle and intercostal muscles. This is the plane where local anesthetic is placed to anesthetize the lateral and anterior cutaneous branches of the intercostal nerves. Illustrator: Kishan Patel, MD

**Conclusions** 30ml of 0.25% bupivacaine mixed with 20ml of liposomal bupivacaine was used and 12.5ml of this mixture was injected at each level. The average OME for each postoperative day was higher in the control group compared to the EOI group. The average OME values in the control group were close to double on POD 0 and 1 and more than doubled on POD 2 and 3 compared to EOI group. The EOI block made a clinically significant difference in our patients' opioid usage and overall satisfaction. The EOI block is superficial with reliable sonoanatomy and can be performed in the supine position without interfering with the surgical incision. Most importantly it can be performed in liver transplant patients with ongoing coagulopathy.

**Attachment** EOI\_livertransplant\_ESRA\_abstract\_final.docx

#### #34509 GENERAL ANESTHESIA AND CAUDAL BLOCK FOR LIPOSUCTION AND ABDOMINOPLASTY

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10.1136/rapm-2023-ESRA.606

**Please confirm that an ethics committee approval has been applied for or granted:** Not relevant (see information at the bottom of this page)

**Background and Aims** Using the regional anesthesia with GA in some surgeries has many benefits including but not limited to reducing the use of intra-operative and postoperative narcotics

**Methods** 53 years old female patient presented to our anesthesia clinic for abdominoplasty and Liposuctions of the back and the abdomen. She has no comorbidity and the Caudal anesthesia with GA was discussed with her and she agreed and consent was signed. Blood investigations were done including coagulation profile. First we started with GA with propofol and Remifentanyl after turning the patient prone, Caudal anesthesia was given. postoperative protocol for analgesics was as follows: Paracetamol 1 gm intravenous every 8 hours if pain score is 4 or less and 50 mg Pethidine intramuscular if pain score is 5 or more

**Results** Operation was done successfully and patient shifted to PACU pain -free with No post-operative side effect of narcotics. Her first request of narcotics was after 18 hours and only Paracetamol Every 8 hours.

**Conclusions** Caudal Block prolonged the analgesia postoperative with minimal or no side effects from narcotics

#### #35786 REBOUND PAIN AFTER REGIONAL ANAESTHESIA

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10.1136/rapm-2023-ESRA.607

**Please confirm that an ethics committee approval has been applied for or granted:** Not relevant (see information at the bottom of this page)

**Application for ESRA Abstract Prizes:** I apply as an Anesthesiologist (Aged 35 years old or less)

**Background and Aims** Rebound pain after regional anaesthesia (RA) is often an under-recognised yet debilitating condition occurring after resolution of the nerve block. Rebound pain disrupts functional recovery, postoperative discharge and patient satisfaction. This retrospective audit aimed to investigate the incidence and factors associated with rebound pain in patients undergoing surgery.

**Methods** Data was retrospectively collected from patients who underwent surgery in Khoo Teck Puat Hospital, Singapore, over a period of 1 year, and had received single-shot peripheral nerve block or spinal anaesthesia. Patient demographics, surgery types, Visual Analogue Scale scores, upon resolution of RA, were collated.

**Results** A total of 1177 patients were studied. Incidence of severe rebound pain was low, 0.8% at rest and 4.5% on movement. Incidence of moderate rebound pain was 6.4% at rest and 19.1% on movement. Age  $\leq 55$ , Indian ethnicity, surgical type and surgical site were associated with increased rebound pain at rest ( $p < 0.05$ ). Female gender, Indian ethnicity and surgical site were associated with increased rebound pain on movement ( $p < 0.05$ ). Moderate-severe rebound pain at rest and movement were common in tibia surgeries (66%) , shoulder surgeries (53 – 73%) and below- knee amputations (20 – 60%).

**Conclusions** Younger patients ( $< 55$  years old), Indian race, and operations such as shoulder, tibia and below-knee amputations have higher rebound pain scores. Understanding the risk factors can help to identify patients who will benefit from