

## Oral Presentations

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#### **100: Gum Chewing to Expedite Return of Bowel Function after Anterior Lumbar Surgery**

*Alexandra Richards, DNP (Phoenix, AZ); JoDee Winter, PA-C; Naresh Patel, MD; Matthew Neal, MD; Chandan Krishna, MD; Pelagia Kouloumberis; Maziyar Kalani, MD*

**Introduction:** Anterior lumbar interbody fusion (ALIF) is used to treat lumbar spondylosis and spondylolisthesis. The operation involves an anterior, retroperitoneal approach to the spine. Patients frequently experience a slow return of bowel function secondary to anesthetic time, opioid use, and primarily due to the bowel displacement intraoperatively; however, this operation is amenable to outpatient surgery. Gum chewing decreases the time for return to bowel function (RBF) in postoperative colorectal and gynecology patients. Despite this data, the association between gum chewing and RBF has only been studied in posterior spine patients.

**Methods:** Preoperative patients needing one or two level ALIF were recruited at a single institution. Patients were selected based on inclusion criteria and randomized by a random number generator; a blinded research assistant assisted with randomization. The experimental group (gum-chewing) and control group (hospital standard management) were compared with the endpoints of length of stay, length to return of bowel function via the passing of flatus and passing of stool. Medical care was standardized with regard to pain control, diet, ambulation, and deep venous thrombus prophylactic and perioperative antibiotic prophylaxis. The experimental group received standard hospital management but were told chew gum for 30 minutes every two hours during waking hours. At the 24-hour mark, participants are examined for bowel sounds and completed a survey regarding flatus, distention, comfort level, and pain. At two-week follow-up visit, all participants completed the same survey.

**Results:** Results revealed that gum-chewing promotes return to bowel function sooner than observation alone. It also decreases patient pain scores and discomfort. Patients randomized to gum-chewing discharged home sooner with fewer gastrointestinal complications.

**Conclusion:** Gum-chewing after ALIF may aid in discharging patients the same day of surgery with a decreased risk of complications related to bowel function.

#### **102: Intra-wound Liposomal Bupivacaine in Pediatric Chiari Decompression**

*Melissa Ann LoPresti, MD (Houston, TX); Nathan Harrell; Eric Goethe, MD; Samuel McClugage, III, MD; Karla Wyatt, MD; Sandi Lam, MD, MBA*

**Introduction:** Intra-wound liposomal bupivacaine is a long-acting local anesthetic used to decrease postoperative pain in a variety of procedures. While it is used in posterior cervical and suboccipital approaches in the adult population, it is currently off-label for pediatrics. In this study we examine intra-wound liposomal bupivacaine for pediatric Chiari decompression and evaluate its role in postoperative opioid consumption.

**Methods:** A retrospective analysis was performed on all patients aged 0-18 years-old who underwent Chiari decompression from January 2017 to July 2019 at our tertiary care hospital. Demographic as well as clinical data regarding postoperative opioid use, subjective and objective pain control, length of stay, discharge medications, and comorbid conditions were collected.

**Results:** Forty-three patients were included in this study: 28 females and 15 males. Of these patients, six received local injection of liposomal bupivacaine. Patients treated with liposomal bupivacaine were found to require less opioids in hospital (83.3% vs. 29.7%  $p < 0.04$ ). There was no difference in pain control immediately postoperatively, pain control at clinical follow-up, or inpatient length of stay between each group. Patients who received liposomal bupivacaine did not require opioid analgesics at time of discharge from hospital.

**Conclusion:** The use of intra-wound liposomal bupivacaine can decrease inpatient and outpatient postoperative opioid consumption amongst pediatric patients following Chiari decompression, while providing adequate pain control. We highlight liposomal bupivacaine perioperative blockade as a viable option for opioid-sparing pain control in the postoperative setting for the pediatric population.

### 103: Variability in Reversal of Anti-Coagulation in Patients With Mild TBI

*Christopher J Whiting (Falmouth, ME); Bruce Chung, MD; Jesse Ritch, PA; Anand Rughani, MD*

**Introduction:** With the recent introduction of novel oral anticoagulants (NOACs) and some evolution of reversal agents, the authors have hypothesized that there has been increased variability in methods of reversal.

**Methods:** At a single 637-bed Level 1 trauma center, we queried the medical records of all patients admitted with a minor TBI (GCS 14-15) and positive head CT. We limited the search to those taking any oral anticoagulant medication (warfarin, rivaroxaban, dabigatran and apixaban). We excluded those on an anti-platelet medication. Manual chart review was performed to document presenting INR, whether reversal was performed, reversal agent, post-reversal INR and stability on follow-up CT.

**Results:** We identified 66 anti-coagulated patients with mild TBI admitted from 2013-2018 under the care of 13 attending trauma surgeons and 10 consulting neurosurgeons. The indication for anti-coagulation was atrial fibrillation in 82% of patients. The most common medication used was warfarin in 65% of patients, with 35% taking a NOAC. Reversal of INR was performed in 50% of patients, and the method of reversal in 69% of cases was with prothrombin complex concentrate (PCC). While 60% of patients on warfarin were reversed, only 33% on a NOAC were reversed. The INR on presentation averaged 2.7 in those on warfarin, 1.7 on rivaroxaban, and 1.3 on apixaban. Average INR in those on coumadin, not reversed, was 1.8. Radiographic progression on CT was similar in those reversed versus not (17% vs 13%). Seven patients ultimately required neurosurgical intervention.

**Conclusion:** The emergence of NOACs in tandem with the use of warfarin has increased the complexity of management of anti-coagulation in patients with intracranial trauma. Notwithstanding the complexity of the indications for anti-coagulation and the severity of trauma, there appears to be high variability in acute management.

### 104: Social Media, a Powerful Platform in Neurosurgery

*Leslie Schlachter, PA (New York, NY)*

**Introduction:** The use of social media is a fast-growing and relevant platform to engage diverse participants in the global neurosurgical community. Physicians, APPs, medical students, patients and industry are all active users of neurosurgery-specific social media platforms. This represents a paradigm shift from prior generation's access to neurosurgery information. Unlike peer-reviewed medical journals, social media pages are unsupervised and not fact-checked. Social media influencers work to directly affect product sales, this method has quickly become a most effective means of information-gathering for millennials, our future doctors and patients.

**Methods:** In July 2017 we initiated a neurosurgery Instagram account @Brainyleslie representing an experienced Neurosurgery PA, Leslie Schlachter. The goal of @Brainyleslie was to raise awareness of neurosurgical medicine and physician assistant practices. On average, two posts and two Instagram stories are posted each week covering pathology pictures, videos, medical team images, patient stories, and personal tidbits of Leslie's life. @Brainyleslie has access to 3D virtual reality surgical representations to educate the social media community.

**Results:** @Brainyleslie has over 17,700 followers. Follower demographics: 90% ages of 18-34, 53% men, 47% women. Location: United States (32%), Brazil (7%), and India (6%). Engagement is tracked and ranked based on likes, comments, impressions, views, profile visits, shares and direct contact. The most well-liked posts show how our team works together, as well as patient interest stories. The most commented posts are when @Brainyleslie offers her thoughts on cases or pathologies. Followers are a good mix of members of the medical community, future members, patients and lay people seeking collaboration or medical information.

**Conclusion:** If consumers of neurosurgical clinicians are looking for information on social media, it is our obligation to provide an accurate representation of this complex field we have worked so hard to be a part of.