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The Nociceptor
WINTER 2023

President's Column

Elie Mulhem, MD

As we emerge from the COVID-19 pandemic, the opioid pandemic continues to have a strong grip on our society. We are in need of additional innovations and collaboration to provide highest quality care for patients with chronic pain and patients with opioid use disorder. We at Midwest Pain Society (MPS) aim to continue doing our role in spreading knowledge and advancing multidisciplinary collaboration in the field of pain management. While our annual meeting is our main venue to share knowledge and spring new collaboration, in the last couple years, MPS added 3 podcasts and multiple virtual town halls free for our members.

This year the BOD plans to meet monthly to tackle many of the challenges facing MPS. The BOD current priorities include the following:

1. Outsourcing accounting to a professional service
2. Develop a social media plan to promote MPS
3. Enhance the MPS Website

What's new? Our annual meeting will return to in-person at Northwestern Memorial Hospital, Chicago, IL on October 21–22, 2023, so save the date! We have an excellent Scientific Planning Committee (SPC) co-chaired by Alyson Engle and Michael Coppes. The SPC already started meeting and I can tell you, the agenda for the 2023 meeting is one of the best I have ever seen from previous MPS meetings. The SPC members for this year are as follows: Michael Coppes (co-chair), Alyson Engel (co-chair), Randall Knoebel (2022 co-chair), Kellie Gates (2022 co-chair), Adam Shammami, Bhuvana Sandeep, LuAnnCathers, Heejung Choi, Stacy Waldron, Dalia Elmofy, Zahra Khudeira, Tennison Malcolm (co-chair).

During the annual meeting, we hope to bring back the social hour at the end of the day Friday to give participants more chance to mingle and connect.

I'd like to recognize Laura Krasean and Veronica Zador for leading the MPS Membership Committee that has been working diligently to increase the society's membership and adding value to the membership with new podcasts and virtual town halls. The next MPS town hall is scheduled on Wednesday, April 26th, 2023 at 5:00 PM CST/6:00 PM EST, the topic "Optimizing Perioperative Pain Management Utilizing Meditation". Expect an invitation in your email soon.

Get involved: As a small society we need our members to get involved and take an active role in building a stronger MPS. The Society's BOD and SPC members are all volunteering their time and effort to manage the Society's affairs and plan for its future. This year we need your assistance in developing a social media presence for MPS. If you have experience in social

CONTENTS

media and are willing to lend a hand, please contact me at Elie.Mulhem@beaumont.edu. We also need your assistance in promoting our annual meeting, our goal this year is to reach a new record in the number of attendees of all disciplines, and we cannot do that without your support. If you have access or connections with other professional organizations to share our meeting information, please do so (or let us know so we can) when our meeting information is available. I hope to see you in Chicago in October!



The Role of Stellate Ganglion Block in CRPS after Shoulder Surgery

Allison, Bell, MD, Lydia Su, MD, Antoun Nader, MD

An 89-year-old female with past medical history of breast cancer status post lumpectomy, hypothyroidism, and history of right-sided reverse total shoulder arthroplasty presented to our pain medicine clinic after undergoing a left-sided reverse total shoulder arthroplasty with left interscalene block two months prior. Since the surgery, the patient reported symptoms of left hand swelling, decreased sensation, burning pain, paresthesias, and warmth in her palm and all five digits of the left hand but not the right. She also reported associated weakness but denied sweating or color change. Upon clinical evaluation she had evidence of allodynia, swelling, decreased range of motion, and weakness of her left hand. The patient had previously tried acetaminophen without improvement. She underwent left stellate ganglion block under ultrasound guidance. Two milliliters of 1% lidocaine was administered for skin infiltration. Using a 70 mm 22-gauge echogenic needle, five milliliters of 0.5% of ropivacaine was administered at the level of C7 under ultrasound guidance after negative aspiration. Signs of Horner's syndrome on the left side and a greater than 5 °F temperature difference in the left upper extremity compared to right upper extremity were present after injection. She returned to our clinic for a follow up appointment approximately three weeks after injection with reported >50% improvement in her symptoms. She returned for her second block three weeks later, followed by a third one two weeks after that. After the third injection she reported almost complete symptom resolution with some mild tingling remaining in her fingers.

The stellate ganglion block is traditionally reserved for refractory cases, and has been shown to significantly decrease pain scores on the visual analogue scale[2]. The block has a higher efficacy if performed early on in symptom onset[2]. Complications after stellate ganglion block may include neuralgia, hoarseness, dysphagia, local hematoma, ipsilateral brachial plexus block, and Horner's syndrome. Signs such as the appearance of Horner's syndrome or an increase in temperature of the blocked limb are indicators of a successful sympathetic block.

The stellate ganglion block technique is traditionally described using fluoroscopy techniques at the level of C6, few describe it using ultrasound[1]. Utilizing ultrasound, the block can be done at the level of C7 to approach the stellate ganglion more precisely, which is how we performed the block. Additionally, performing the block at C7 versus C6 allows for more specific targeting of the upper extremity. An image of this technique is shown in Figure 1. Although more research is needed in this area, there is some evidence suggesting stellate ganglion blocks done under ultrasound are just as effective as those done under fluoroscopic guidance[1]. Benefits of ultrasound-guided technique include the ability for real-time visualization of needle manipulation near important vascular structures of the neck, administration of lower volumes of local anesthetic, and lower resource utilization when compared to the personnel and equipment required for fluoroscopic techniques.

This case serves as an example supporting the safety and efficacy of early utilization of ultrasound-guided stellate ganglion block in the treatment of upper extremity CRPS.

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Using Online Pain Education Programming During the Pandemic: Pouring Energy Into a Void?

David Cosio, PhD, ABPP

In 2015, the Midwest Pain Society awarded the Addison/Blonsky Research Grant to our team to conduct a randomized control trial of multimedia interventions to improve pain education among Veterans with chronic, non-cancer pain. We found that there were potentially negative aspects to using multimedia, and recommended that it should not replace any personal interaction from providers. Unfortunately, we spoke too soon, not realizing that an alternative would need to be explored in the near future.

On March 11, 2020, the World Health Organization made the declaration of COVID-19 as a global health pandemic. This was then followed by the US government announcing travel restrictions, social distancing guidelines, and allocating the ordering of masks and stay-at-home orders to the governors of each of the 50 states. These COVID-related barriers had adverse consequences in healthcare, especially for those individuals who live with chronic pain conditions. The face-to-face Pain Education School program at a local Midwestern VA Medical Center was closed from March till June 2020. In an effort to continue to provide pain education programming to Veterans during the pandemic, our research team explored the feasibility of using online learning management systems to implement hybrid learning. In addition, these systems were also intended to be used to determine their impact on chronic pain scores and other secondary measures—an effort that proved to be futile.

On June 5, 2020, the online Pain Education School program was introduced to Veterans using the app. schoology.com platform. There, Veterans were able to find past videos of recorded face-to-face classes, PowerPoints used in those classes, and handouts for each of fourteen modules—12 regular sessions, an introduction, and a conclusion and planning module. Between June 5, 2020 and October 1, 2021, there were 335 invitations to join the platform mailed to Veterans with chronic pain. Over the year and a half, we witnessed a stunning level of disconnection from the Veterans. Only 70 Veterans joined the platform, which is approximately 20% of the total referred sample. In prior studies of the program, we have seen anywhere from 43% (face-to-face) to 63% (multimedia) participation. We attribute such low participation due to Veterans feeling checked out, stressed out, and unsure of their future during the pandemic. We also realize that the United States Postal Service experienced a crisis that caused backlogs and delays in the delivery of mail which started in June 2020 and lasted through the online program's existence.

What we learned is that the online program instead could be used to maximize trainee education. Remember, during this time, staffing was restricted to essential personnel to further minimize risk, often excluding trainees. Consistent with this, some clinics moved to completely eliminate trainee involvement. It was clear that successful transformation of training programs required providers embrace a technology-driven future. It was important that clinics not allow the pandemic to arrest training, but instead begin implementing changes. In the absence of in-person training at a local Midwestern VA Medical Center, the online platform (initially developed for patient consumption) served as an innovative solution that accommodated the constraints in training created by the pandemic.

Membership Committee Update

Laura Krasean, PhD, Veronica Zador, and Michael Coppes, MD

The MPS Membership Committee is excited to announce a *free* virtual town hall event, Optimizing Perioperative Pain Management Utilizing Meditation on Wednesday, April 26 at 5pm CST/6pm EST. Please check your email and the MPS Facebook accounts for registration information, which will be distributed in early-mid March. You are encouraged to pass this registration information along to colleagues and friends who would like to join us.

Michael Coppes, MD, Assistant Professor in the Department of Anesthesia and Pain Management at the Froedtert and Medical College of Wisconsin will serve as moderator for this discussion. The multidisciplinary panel will consist of providers from Radiation Oncology and Integrative Medicine, Nursing, Pain Management, and Yoga Therapy. We are excited to welcome several guest panelists for this event. Eleanor Walker, MD, is the Director of Breast Radiation Oncology and the Medical Director for the Center for Integrative Medicine at Henry Ford Health System in Detroit. She also serves as the DEIJ representative for the Henry Ford Cancer Institute Council and is the Institutional PI for NRG Oncology research group. Shelly Stempfle, PA, works in Pain Management at Henry Ford Health System. She also received her Yoga Teacher Training Certification at the Beaumont School of Yoga Therapy. Andrew Glaza is a second-year medical student at Oakland University William Beaumont School of Medicine. His research interests include yoga therapy interventions for the management of chronic pain, intraoperative radiation therapy in the treatment of breast cancer, and cancer cell biology. Janet Weaver, RN worked as a clinical nurse, and in a variety of leadership positions. Her clinical experience includes intensive cardiac care, neonatal intensive care, oncology, and orthopedics and outpatient dialysis. Janet provided nurse consulting for several years with Creative Health Care Management. Currently, Janet is a Magnet Appraiser contracted with the ANCC. She is a certified yoga therapist, and is Associate Faculty at the International Institute of Yoga Therapy. Michael Rice is the Founder and Director of The Mindfulness Revolution/ Evolution and has over forty years' teaching and leadership experience in meditation and applied mindful practices for stress and pain management.

The panel will explore and demonstrate how meditation can assist in the perioperative recovery process, as well as share the steps these providers can take to assist the patient in moving towards their recovery.

Lastly, please consider joining our interdisciplinary Membership Committee to help develop content for upcoming Town Hall meetings, the MPS Podcast series, or Membership recruitment. We would love to work with you! Please contact laura.krasean@beaumont.org and vzador@meetingpro.net for more information.

Spontaneous Epidural Abscess Three Years After Cervical Epidural Steroid Injection

Jordan Chen, MD1; Tinh Huynh, MD1; Geeta Nagpal, MD1
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Introduction

Epidural anesthesia was first administered in 1901 for lumbar radiculitis[1]. It is now widely used in labor analgesia, surgical anesthesia, and chronic pain. While the safety profile of epidural anesthesia has improved, life-threatening complications such as epidural hematoma and/or abscess still exist[2,3]. Here we present a case report of a patient on long term anticoagulation who developed a spontaneous epidural fluid collection despite not having any epidural injection for three years

Case Description

A 53-year-old female presented with neck pain after a MVC in 2019. In 2020, she received cervical epidural steroid injections and reported significant discomfort, dysphasia, numbness, and chest pain. She was sent to the ED and had cord edema on imaging. Neurosurgery did not recommend surgery, and the patient was discharged with steroids and antibiotics. She subsequently transitioned her care to Northwestern Medicine where she was managed conservatively and had sequalae of persistent left-sided weakness related to hand extension/grip.

In 7/2022, an MRI was ordered to evaluate the progression of her myelopathy. Imaging revealed a large ventral 6.9 cm x 1.7 cm fluid collection with enhancement from C3-T1 with evidence of cord compression, and she was subsequently admitted to the hospital. Neuro-IR was

unable to reach the canal for sampling. Neurosurgery did not recommend surgery given her cardiovascular history (patient was taking ticagrelor and rivaroxaban) and absence of significant neurologic deficits. ID treated empirically with vancomycin and ceftriaxone, and the patient was discharged in her baseline of health without any new neurologic deficits. The fluid collection was assumed to be an abscess given elevated inflammatory markers and a hypermetabolic PET scan. Treatment included planned repeat scan after completion of 6 weeks of antibiotics.

Discussion

Epidural hematomas typically present as cord compression symptoms with associated pain and deficit, and surgical evacuation is usually necessary for recovery. However, it is possible for it to spontaneously resolve with MRI as the best modality for monitoring[4]. Although it has been three years since our patient's last CESI, being middle-aged and on chronic anticoagulation put her at higher risk for an epidural hematoma

Epidural abscess symptoms are often similar neurologic deficits but with additional symptoms indicative of infection—back pain, fever, localized spinal tenderness. The gold standard treatment includes abscess drainage, primary focus eradication, and IV antibiotics[5]. Due to a known history of cocaine abuse, we presumed a potential for IV drug use which puts her at higher risk for an epidural abscess

While the diagnosis of spontaneous epidural abscess in our patient was not definitive, what is undeniable is the presence of an evolving, life-threatening, fluid filled mass in the cervical epidural space despite no recent instrumentation of the spine. Our case exemplifies that while epidural anesthesia has a multitude of beneficial effects with a low-risk safety profile, it is important to be hypervigilant of imminent complications discussed above, especially in the high-risk population.

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MPS Poster Write-up | Offering Pain Rehabilitation Programming in Indiana

Lindsay G. Flegge, PhD, HSPP, Amanda E. Wakefield, Psy.D., HSPP, & Rebekah R. Burgette, M.S. LMHC

Interdisciplinary pain rehabilitation programs (IPRPs) are one form of evidence-based treatment for chronic pain. IPRPs emphasize functional restoration through physical reconditioning, graded increase in activity, and self-management skills for pain and emotional distress (Gatchel et al., 2014; Stanos, 2012). Patients with chronic pain who participate in these programs show better mood (Craner et al., 2021), increased physical functioning, and sustained decreases in opioid use at program discharge compared to admission (Huffman et al., 2017), and are more likely to return to work than control groups (Fischer et al., 2019). While IPRPs are becoming a treatment of choice for many chronic pain conditions across the nation, Indiana has not offered this form of treatment until now. To address this healthcare disparity and expand options for Hoosiers with chronic pain, IU Health has begun implementation of an IPRP. This poster reported data outputs and patient feedback from the first eight months of IU Health's program operations (December 2021-August 2022). The program is structured in a 3-week outpatient format with daily physical therapy and group psychotherapy along with weekly components that include medical visits, dietician group, yoga therapy, chaplaincy, medical massage, music therapy, peer support, social work, and pharmacy. Data collected were referral numbers, pre/post treatment measures, and a qualitative exit survey. Overall, results showed the program has been well-received by patients and a majority of objective and subjective outcomes have been positive, indicating that treatment goals are being met. Specifically, pre/post data showed small improvement on all measures for 8 of 11 patients, although results were not statistically significant. When asked "What helped the most from the program?", patients were most likely to report the psychological content, physical conditioning/physical therapy, and educational aspects. When using data to identify next steps for program sustainability, the program plans to address barriers to program admission and increase initial referrals from providers, address risk factors for drop out, optimize measures to reflect the most important outcomes while minimizing burden on the patients, and consider financial implication of program development to balance appropriate care with accessibility and financial sustainability.

Citations

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UPCOMING EVENTS

22nd Annual ASRA Meeting
November 10-12, 2023
New Orleans, LA

PainWeek Conference 2023
September 5-8, 2023
Las Vegas, NV

30th Napa Pain Conference
August 17-20, 2023
Napa, CA

USASP 2023 Annual Scientific Meeting
April 11-14, 2023
Durham, NC

26th Annual Scientific Meeting on Pelvic Pain
October 19-22, 2023
Denver, CO

GETTING TO KNOW OUR BOARD OF DIRECTORS

Randall W. Knoebel, PharmD, MPH, BCOP

Greeting fellow Midwest Pain Society members! As the newest member to be elected to the MPS board, it is my pleasure to share a bit about myself. I have been a member of MPS since 2012, have served on the Scientific Planning Committee since 2019 organizing the Annual meeting last year with my colleague Kellie Gate, and this last year was elected to serve on the MPS Board of Directors. I have also delivered presentations and moderated sessions at a few of the past annual meetings.

Now a bit about my professional self. I am a board certified oncology pharmacist and have worked at the University of Chicago Medical Center for 13 years in various roles, now serving as the Director of Health Analytics and Drug Policy, PGY1 Pharmacy Residency Program Director, and Pain Director of Pain Stewardship. I was first drawn to pharmacy shortly after my grandfather was diagnosed with metastatic lung cancer. Inspired by Lance Armstrong he entered a clinical trial with the hope he could contribute to improving the lives of those in the future. During his treatment, he recounted many of the interactions he had with the health care system and remembered being particularly intrigued by the interactions he had with his clinical pharmacist. He discussed the relationship he built with the pharmacist—stating the pharmacist was always willing to take the time to listen and provide motivational counseling empowering my grandfather to manage his disease and treatment related side effects. This made a big impression on me, and inspired me to pursue a career in pharmacy so I could impact the lives of those like my grandfather.

While cancer sparked my initial interest in pharmacy, I quickly developed a passion for pain medicine while working in a head and neck cancer pain clinic during my hematology-oncology residency at the University of Washington Medical Center. I observed how this symptom and its treatment took over people's lives eventually becoming a disease of its own. During this time the opioid crisis had just started to make the headlines of both the lay and scientific press and quickly recognized the important role pharmacists would play at this intersection of both improving the treatment of pain while minimizing the harms that can arise from opioid medications. At the University of Chicago Medicine, I have been fortunate to work with highly motivated individuals that share a vision for improving pain care both locally and nationally. Since 2016, I have served as pharmacy chair for the palliative care and anesthesia committee and pharmacy director for pain stewardship committee and have taken part in many quality improvement initiatives in pain care at the institutional and neighborhood level. In 2017, I stepped into a role to leverage big data to make informed decisions on methods to improve the value of care delivery to patients at U Chicago Medicine. Most recently I graduated from University of Illinois Chicago with a Master's in Public Health which has further reinforced my focus to meet patients where they are at and improve the conditions in which they live, learn, work, play, pray, and age. Much of my research to this point has focused on quality improvement in cancer and pain care, health disparities research, and pharmacogenomics implementation. Lastly, for the last 6 years I have served as the PGY1 Residency Program Director (10 residents per class) and served as a preceptor and mentor to countless trainees both inside and outside of the pharmacy profession.

On a personal note, my wife Anna and I welcomed our beautiful daughter Hazel into the world back in May 2022 and have been loving fatherhood. In my free time, I am a homebrewer and have been enjoying that hobby for the last 20 years, going to concerts and listening to music, photography and being out in nature.

Thanks for making it all the way to the end, I hope you've enjoyed getting to know me a little bit and I truly look forward to meeting you in person at our upcoming annual meeting this fall in Chicago! Thank you for being a member of the MPS and the value and perspectives you bring from your specialty and training.

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47TH ANNUAL SCIENTIFIC MEETING

Join us IN PERSON in Chicago, IL at the Northwestern Prentice Women's Hospital