ANESTHETIC ASPECTS of Bariatric Surgery

THIS MONTH:

5th Annual Symposium of the International Society for the Perioperative Care of the Obese Patient (ISPCOP)

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This ongoing column is written by members of the International Society for the Perioperative Care of the Obese Patient (ISPCOP), an organization dedicated to the bariatric patient.

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Attendees of the International Society for the Perioperative Care of the Obese Patient (ISPCOP) 5th annual symposium at the King Arthur Court at the Hotel InterContinental on Michigan Avenue in Chicago, Illinois

TIPPING THE SCALES IN 2016: A NEW LOOK AT REGIONAL ANESTHESIA, NEUROMUSCULAR BLOCKADE, AND OPIOIDS IN THE PATIENT WITH OBESITY

In a city in the midst of celebrating the Cubs National League (and eventual World Series) Championship, the International Society for the Perioperative Care of the Obese Patient (ISPCOP) held its 5th annual symposium during the American Society of Anesthesiologists (ASA) annual meeting. ISPCOP is an international society with a mission to promote excellence in clinical management, education, and research regarding the care of patients with morbid obesity during the perioperative period. ISPCOP membership is mostly composed of interested anesthesiologists. Close to 60 attendees gathered in a beautiful historic location—the King Arthur Court at the Hotel InterContinental on Michigan Avenue.

Following a brief welcome by Dr. Roman Schumann, Professor of Anesthesiology at Tufts University School of Medicine at Tufts Medical Center in Boston and current president of ISPCOP, Dr. Patrick Ziemann-Gimmel, Assistant Professor at the University of Central Florida, employed by Sheridan Healthcare at Flagler Hospital in Saint Augustine, Florida, and the evening program chair, introduced the symposium outline and speakers to the audience.

Dr. Yan Lai, Assistant Professor of Anesthesiology at the Icahn School of Medicine, Mount Sinai Medical Center in New York, started the meeting with a presentation titled "BRAVO! Bariatric Regional Anesthesia for the Very Obese." Dr. Lai discussed the benefits of regional anesthesia in patients with obesity. These include avoidance of airway manipulation, improved postoperative analgesia, and the reduction of postoperative nausea and vomiting (PONV). All those factors may also improve patient satisfaction and reduce the cost of care. Obesity was identified as a risk factor for block failure and complications during the era of nerve stimulation for block placement and before the introduction of ultrasound technology. Ultrasound guided regional anesthesia (USRA) allows the anesthesiologist to observe needle advancement and spread of local anesthetic in real time. With the widespread clinical use of ultrasound technology, regional anesthesia has become less time consuming, safer, and more efficient. Dr. Lai then shared some "pearls" on how to improve ultrasound image quality. Even in this patient population, a "keep it simple" principle will be a guide to success: recognize that certain nerve blocks are challenging in these patients, choose superficial blocks, and manage patients' expectations.

Next, Dr. Glenn Murphy, Clinical Professor at the University of Chicago Pritzker School of Medicine; Jeffery S. Vender Chair of Anesthesiology Research and Education and Director of Cardiac Anesthesia and Clinical Research, NorthShore University Health System spoke about "Dosing and reversal of neuromuscular blockade in the patient with obesity." Dr. Murphy has authored numerous articles, reviews, and book chapters and is a world-renowned researcher in the field of neuromuscular blockade management. Compared to normal weight patients, the patient with obesity presenting for a surgical procedure requiring neuromuscular blockade poses additional challenges to the anesthesiologist. Dr. Murphy addressed the question of dosing optimization for neuromuscular blocking agents (NMBA). Dosing for this type of medication is weight based, but it is often unclear which weight scalar to use: ideal body weight, adjusted body weight, lean body weight, or total body weight. The many physiologic changes in the patient with obesity make the decision difficult given the effect on the pharmacokinetics and pharmacodynamics of NMBAs. Few data have emerged for patients with obesity to guide administration. For example, it is beneficial to choose the dose of succinylcholine based on total body weight, providing the best intubating conditions compared to alternatives. In contrast, the dose of non-depolarizing NMBAs should be based on ideal body weight to avoid significant prolongation of neuromuscular blockade. At the end of the procedure, a reversal agent should always be administered in patients with morbid obesity and routine neuromuscular blockade monitoring should be standard. Neostigmine can have significant side effects and limited effectiveness in NMBA reversal. It needs to be administered at a high train-of-four ratio (3-4) and due to the time required to reach peak effect, it is recommended to wait at least 10 to 15 minutes before tracheal extubation. The recently FDA-approved drug sugammadex should be considered in high-risk patients. Sugammadex can readily reverse a deep neuromuscular block for a commonly used class of NMBAs with a fast onset of action and maximal effect typically within two minutes. These pharmacological features of sugammadex make it a very attractive choice for NMBA reversal in this context.

Dr. Yan Lai, Assistant Professor of Anesthesiology at the Icahn School of Medicine, Mount Sinai Medical Center in New York discussed the benefits of regional anesthesia in patients with obesity.

These two presentations were followed by the scientific abstract session. This part of the program

included the review of scientific posters, and the opportunity to meet with our industry supporters Merck, Mallinckrodt, Pacira and Gettinge Group, as well as a dinner break for speakers and attendees.

A research team member from each of the top three winning scientific abstracts then presented five-minute summaries of findings followed by a brief Q&A session.

The first prize went to Dr. Antony Carrier-Boucher from the Institut Universitaire de Cardiologie et Pneumologie de Quebec in Canada for his groups' work entitled"EPO2–Evaluation of the preoxygenation in morbidly obese. Optimal position and ventilation mode." Dr. Mahesh Nagappa presented his group's work on "Postoperative outcomes in obstructive sleep apnea patients undergoing cardiac surgery: A systematic review and meta-analysis" to win the second prize.

"Non-invasive assessment of low minute ventilation in the PACU and general hospital floor" was the title of the study that won the third prize; Dr. Roman Schumann presented the abstract.

To save the best for last, the keynote of the symposium was delivered by Dr. Jan Mulier, Chairman of the Department of Anesthesiology at the AZ Sint Jan Brugge-Oostende in Belgium. He is a founding member of the ISPCOP and former president of the ESPCOP, the European counterpart of ISPCOP. He discussed the current role of and future perspectives on opioid-free techniques in bariatric anesthesia and beyond. Dr. Mulier is a pioneer in this area and his insights in multimodal opioid sparing or free anesthesia and analgesia are changing anesthetic practice in many countries. He shared details and data of his multimodal approach to opioid free anesthesia that includes procaine, dexmedetomidine, propofol, diclofenac, magnesium, ketamine, and acetaminophen. Interestingly intraoperative opioid avoidance helps to reduce postoperative opioid requirements (opioid paradox) as well as postoperative shivering.

In the early 1960s, opioids were introduced to anesthesia, in part, because this class of drugs helped to provide good hemodynamic stability. But even during the first decade of their use, studies indicated that opioids lose their effectiveness rapidly and can even cause an exaggerated response to pain known as hyperalgesia following exposure of only a few hours. Furthermore, opioids can cause deadly respiratory depression. Patients develop a tolerance to the analgesic effect much sooner than for respiratory depression. Patients with morbid obesity frequently suffer from sleep-disordered breathing, including obstructive sleep apnea (OSA), and opioids can affect sleep patterns and worsen OSA, increasing these patients' risk for perioperative respiratory depression. For many procedures, opioids have severe limitations and should rather be considered as a last resort in treating pain.

The ISPCOP board of directors would like to thank Dr. Ziemann-Gimmel and all members, organizers, and attendees that helped make this meeting an outstanding success. We also would like to extend our gratitude to Merck & Co., Inc., Mallinckrodt Pharmaceuticals, Pacira Pharmaceuticals, Inc., and Getinge Group for their meeting support. This symposium would not have been possible without their generous contributions.

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