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Challenging Cases and Complication Management in Pain Medicine

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Preface

Pain is unpleasant. Pain is serious. Pain leads to suffering. Pain needs to be treated. These facts motivate our mission as pain physicians.

As physicians, we learn early in medical school what disease means for our patients. We know that, left untreated, pain can really progress to that continuous suffering that is the disease state of chronic pain. With a sense of urgency, we treat our patients in pain, we try to heal them, and we try to comfort them, but how do we achieve the confidence that we are truly helping them?

A millennia-old symptom, pain is one of the most common complaints we hear in any doctor's office or in the hospital setting. Despite aggressive treatments, some patients develop long-lasting, refractory pain. As our therapeutic methods evolved from the old poppy seed juice to sophisticated, technologically advanced tools, so did our understanding of chronic pain.

In some instances, however, despite true progress on medical knowledge, clear understanding of pathophysiology, and application of modern interventions to tackle pain, some patients' pain sets on an unusual course.

Whether side effects of a medication, complications from interventional procedures, or unusual anatomical variations, we learn very quickly after starting our medical practice that our patients are unique. The variety of situations we do encounter in a lifetime of practicing medicine is therefore significant. And that is when clinical experience is important and in some sense becomes invaluable.

That is why, many times in the hallways of local, regional, national, and international meetings, you will find pain physicians discussing difficult cases with peers. That is why many meetings have special sessions of "Ask the Experts."

Sharing expertise, together with formal learning, ensures a true, deep, and profound progress on understanding of a topic from the incidence/prevalence to complex pathophysiology, differential diagnosis, and elaborate treatments.

That is the rationale of this current book *Challenging Cases and Complications in Pain Medicine*. In many ways, it is an extension of the discussion all of us have had during the years with our peers. Stemming from the American Society of Regional Anesthesia and Pain Medicine Fall Annual Meeting sessions of "Ask the Experts," this book is meant to be a review of problems, common and uncommon, that may arise in clinical pain practice. Most importantly, it is meant to contribute to the understanding of unanticipated clinical situations. It aims also to enhance readers' medical knowledge through the scholarly contribution to the "discussion" section of each chapter.

In this book, to access the pain physician community's collective knowledge and experience, the chapters were assigned to practitioners from both academic and private practices. Each chapter starts with a description of a clinical scenario. In order to avoid patient source identification, each of these scenarios represents a combination of at least two clinical cases. All those clinical situations, however, are based on real-life cases as described by the physicians contributing to the chapter. Thus the entire book represents the collective clinical experience of the authors.

Following the case descriptions, the discussion section of each chapter offers a comprehensive review of the topic brought up by the case description. The reviews are written based on the most current evidence-based literature and give the reader an updated reference on the subject described.

This book does not aim to discuss all topics of pain management; however, employing scholarly expertise from known academicians in the country as well as established practitioners, we hope this collection will be an accessible and broad reference for common and uncommon problems that starting practitioners as well as experienced ones may come across in their day-to-day pain practice.

Finally, we would like to emphasize the importance of continuing learning; as we complete our training, our professional journey is really just at the beginning of the road. While during residency and fellowship we do learn the basis of our profession, it is during our formative initial years of independent practice as physicians that we actually begin to grow and to use decision-making skills learned during our training.

As the mother of one of the editors, an accomplished Romanian ophthalmologist, once told her, you can teach your trainees a clinical manual skill relatively easy. It is the identifying and optimal treating of complications related to that task that takes a lifetime of learning. In some ways, we may say that true learning of how to really treat our complex pain patients only starts with ending our formal fellowship training.

We hope that our readers will enjoy this review book and find relevant information useful both in clinical practice and for advancing and acquiring medical knowledge. We also hope that, with this book, clinicians will be better equipped in identifying and treating possible complications related to pain medicine interventions.

As pain is unpleasant and may lead to suffering, with this book and what it contains, we aim to help our colleagues in finding the best pain regimen and cure for their patients, as well as help patients to ease their pain and suffering and achieve a better quality of life through treatments that could possibly minimize complications.

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Part I

Non-interventional Pain Therapy

Opioid Overdose

1

Gregory Polston

1.1 Case Description

A 54-year-old male is brought to an emergency room via ambulance. He is obtunded and is breathing shallowly. He responds minimally to stimulation. His wife states that "he was sleepy today but had more pain than usual." She calls for the ambulance when he stopped breathing. His past medical history is significant for multiple back surgeries, which have left him with chronic pain. His wife says his pain has gotten worse over the past few months. She also reports that he takes multiple medications for his pain, including opioids, but she does not know which specific names or doses. He has a long-standing relationship with his current pain physician, and his wife believes that he may have recently had his opioid medication increased, although she is not certain.

His blood pressure is 90/72, heart rate is 105, and respiratory rate is 6. Oxygen saturation is 92%, and oral temperature is 38 °C. The patient is not able to answer questions or follow commands, although he is arousable with sternal stimulation. Physical exam shows normal pupils that are round, equal in size, and reactive to light. A full body exam shows no signs of trauma or needle marks. No topical patches are found on his body. Breath sounds are shallow but clear. The abdomen is soft, and bowel sounds are absent.

Emergency staff begin delivering oxygen. IV access is obtained, and blood is drawn and sent to the lab. Because an opioid overdose is suspected, the patient is given 0.4 mg of naloxone intravenously. His respiratory rate increases, and his oxygen saturation improves, but he is still confused and not fully able to follow commands.

A review of the state online prescription monitoring system shows monthly opioid prescriptions from one provider. His last opioid prescription was 4 days ago and shows that oxycodone CR was increased from 20 mg p.o. b.i.d. to oxycodone CR 40 mg p.o. b.i.d. Oxycodone/acetaminophen 10/325 p.o. q.i.d. was also dispensed on the same date and at the same dose as the previous month. This document also shows a prescription for alprazolam 0.5 mg #30 2 months ago.

His wife states that the patient is compliant regarding his medication and is careful to not take them in a way other than prescribed. He has seen a psychiatrist in the past for depression, but his wife does not believe that he has been overly depressed or anxious recently. He has no prior histories of overdoses or suicide attempts.

Fifteen minutes after being given the naloxone dose, the patient becomes groggier, and his saturation levels start to decrease. A repeat dose of 0.4 mg of naloxone is given. Again, oxygen saturation quickly improves, and he becomes more awake.

A finger stick blood sugar test is 90, and a urine immunoassay is positive for oxycodone and negative for benzodiazepines and illicit drugs.

Over the next 4 h, he slowly becomes more awake. He receives three more doses of naloxone. The patient improves and is able to maintain his oxygen saturation on 2 L via a nasal cannula. It is determined that he does not need an IV infusion of naloxone, but he is admitted for overnight observation.

The patient later admits that he took two extra doses of oxycodone CR, along with one alprazolam on the morning before his emergency admission because his pain was really bad. He was discharged the next morning and sent home with two doses of naloxone with a nasal spray adaptor for rescue. Both he and his wife were given instructions on how to recognize the signs of an overdose and how to use this medication. He was instructed to follow up with his pain physician as soon as possible.

1.2 Case Discussion

The United States is currently experiencing an epidemic of opioid dependence, abuse, and overdose involving prescription opioids and illicit use of heroin. It has become increasingly clear that this epidemic is the result of increased availability of

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