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An Overview of Ogilvie's Syndrome: Key Diagnostic & Therapeutic Considerations

Dr. Buch:

Acute colonic pseudo-obstruction, also known as Ogilvie's syndrome, is a condition that manifests itself as a dilation of the colon without any mechanical obstruction. So, how can clinicians best care for these patients?

This is *GI Insights* on ReachMD. I'm your host, Dr. Peter Buch. And today we're joined by Dr. Brooks Cash. We'll be discussing acute colonic pseudo-obstruction. He is the Dan and Lillie Sterling Professor of Medicine and the Division Director of Gastroenterology, Hepatology, and Nutrition at the University of Texas Health Sciences Center in Houston.

Welcome to the program, Dr. Cash.

Dr. Cash:

Well, thanks very much, Dr. Buch. It's a pleasure to be here.

Dr. Buch:

To start out, Dr. Cash, what are the risk factors for patients with acute colonic pseudo-obstruction? And is there a known cause?

Dr. Cash:

So that's a great question, and there are lots of risk factors for Ogilvie's syndrome, or ACPO as you indicated. You know, we tend to think of this as occurring primarily in hospitalized patients, and in 2023, hospitalized patients are generally quite ill. So there's a whole gamut of things that have been associated with acute colonic pseudo-obstruction: metabolic disorders such as diabetes or electrolyte imbalances, kidney failure, or liver failure. Certainly our medications can do this. The most associated with acute colonic pseudo-obstruction would include the opioid medications, or opiates, tricyclic antidepressants, anti-Parkinson's medications. We see this a lot in postoperative patients after they have gotten anesthesia or surgery. Sometimes it can be seen even in obstetric patients after delivery of a baby or C-section and even in patients with cardiorespiratory conditions, congestive heart failure, COPD, and heart attacks or myocardial infarctions, so generally ill patients, and it's likely multifactorial. The exact cause of acute colonic pseudo-obstruction is not completely understood, but the general theories are that it's an imbalance between what we call the sympathetic and the parasympathetic nervous systems that control motility in the gut.

Dr. Buch:

Thank you for that. And if a patient presents to you with this condition, what testing and initial strategies to you recommend?

Dr. Cash:

Well, we generally recommend imaging, and this can be done with CT scan. More often than not, it's done with a plain film x-ray. And what we're really looking for is a measurement and an appreciation of the dilation of the colon. Now, acute colonic pseudo-obstruction most commonly will show dilation of the colon without an obstruction starting in what we call the splenic flexure, so the upper left half of the colon or the large intestine. And that happens to be where the sympathetic and parasympathetic nervous systems have a transition zone in the gut. What we're specifically looking for is what's called a cecal diameter greater than 12 cm. Now, the cecum is the very first portion of the colon. That's where the small intestine meets the large intestine or the colon. The cecum is a thinner part of the colon or the large intestine, and when it starts to get to 10 or 12 cm, we start to really get concerned about the risk of perforation as well as other complications that can occur from acute colonic pseudo-obstruction.

The other tests that we recommend are review of electrolytes, magnesium, potassium, sodium. We recommend that patients' medical records be gone through in terms of the medicines that they're on to make sure that they're not on any medications that can slow or

delay gut transit. And those are generally the recommended laboratory and x-ray values that we obtain. We also recommend looking for infection, such as urinary tract infections, pneumonias or other infections that patients can get either in the hospital or even outside the hospital.

Dr. Buch:

And as a segue to what you just talked about before, how does cecal diameter define the next steps?

Dr. Cash:

Well, cecal diameter is critically important. We know that when the cecum diameter starts to exceed 12 cm, that the risk of perforation or ischemia, not getting enough blood supply. You can think of this kind of like a balloon, and the blood vessels are on the outside of the balloon. If you distend that and blow it up more and more and more, those blood vessels are going to get constricted or squeezed, and there's not going to be as much blood supply to the gut. That can lead to hypoperfusion, which then also increases the risk of perforation, or a hole in the GI tract or the colon, but also translocation of bacteria, which can then lead to infection, so that 12 cm diameter is really critical for us to look at, and that's going to dictate when we start to intervene with either medical therapy, endoscopic therapy or perhaps even in some instances surgical therapy.

Dr. Buch:

So, as a follow-up to that, if we have, for instance, an 8 or 9 cm dilated cecum, what's the chance that that will resolve without a significant intervention?

Dr. Cash:

The chances are relatively good that a lower diameter cecum will restore itself if patients' electrolytes are fixed if we are moving them around and getting them active as much as they can be. That's a key part of this. But also, we may need to give them some medical therapy. When that diameter starts to exceed 12 cm, that's when we need to make sure that our surgeons are on board, that they're watching the patient as well, because the risk of having to go to a surgical intervention is higher in these patients.

Dr. Buch:

Thank you for that. And can you just elaborate on therapies for us please, Dr. Cash?

Dr. Cash:

Sure. There are some really nice guidelines that the American Society for Gastrointestinal Endoscopy put out in 2020 on the management of acute colonic pseudo-obstruction, and the primary therapy, at least early on is conservative management. Now, we always want to assess patients for evidence of ischemia or perforation or peritonitis or perhaps even what's called a volvulus where part of the colon twists on itself. If those are not present, then the recommendation, according to those guidelines, is for conservative management for about two to three days, and this includes taking the patient off of food, resting their bowel, putting in a decompression tube in their nose which will then hopefully allow some venting of that gas that's in the GI tract, get them off any medications that may slow their motility and then get them moving up and out of bed at least to a chair if not walking in the hallway or in the hospital. And if there are any reversible causes, such as infection, to treat those aggressively. If that doesn't respond within two to three days, then the guidelines recommend moving on to medical therapy or perhaps endoscopic therapy.

The data would really support medical therapy as a first choice, and we use medications that are designed to restore gastrointestinal motility. The primary one that's used for acute colonic pseudo-obstruction is called neostigmine. When that fails, or when other medications fail, we do sometimes move into a decompression mode with endoscopy. So we will put an endoscope up into the rectum and we will try to decompress that as much as possible and often will leave a decompression tube in place for a few days to help vent that gas.

Dr. Buch:

And as a follow-up to that, can you just elaborate on the limitation for neostigmine? Often they are elderly patients?

Dr. Cash:

They are. And neostigmine is what's called an acetylcholine esterase inhibitor. It basically blocks the enzyme that chews up or degrades acetylcholine. Acetylcholine is a promotility hormone or peptide that our bodies make, so it essentially increases the level of acetylcholine, which hopefully increases motility. This has been reasonably well studied in acute colonic pseudo-obstruction. Of course, these are very difficult studies to do because these are elderly patients with a wide variety of comorbidities, but there are some limitations, and the major limitation is that there are some side effects from neostigmine. The most noteworthy is bradycardia. It can slow the heart rate, and that is why we do recommend that when this is given, that it's given in a monitored setting. So patients need to be hooked up to blood pressure monitoring as well as heart rhythm monitoring. It can also cause some gastrointestinal side effects like nausea and vomiting, abdominal pain.

It is recommended that we not use this in patients who have evidence of obstruction. Of course, that's really counterintuitive or contrary to the whole discussion of acute colonic pseudo-obstruction in which obstruction is excluded, but we want to really be cautious in patients with conditions such as asthma or renal insufficiency, recent heart attack or myocardial infarction, and preexisting bradycardia. It is recommended that we have an antidote to that bradycardia in the form of atropine ready to go at the bedside should patients experience a clinically significant episode of bradycardia where their blood pressure drops and their heart rate drops to an alarmingly low rate. You can reverse the effects relatively quickly within seconds with atropine, but neostigmine is a medication that should be given by experienced clinicians who are fully familiar with the adverse effects that it can engender, but it also can be a very effective therapy for acute colonic pseudo-obstruction.

Dr. Buch:

For those just tuning in, you're listening to *GI Insights* on ReachMD. I'm Dr. Peter Buch, and I'm speaking with Dr. Brooks Cash about patients with acute intestinal pseudo-obstruction, also called Ogilvie's syndrome.

So, with that information in mind, Dr. Cash, are there any challenges that may occur when using endoscopic therapies?

Dr. Cash:

There absolutely are some challenges that can occur, and it's a relatively common request for us to get from our consultants when faced with these patients to just go in and put a colonoscope into their colon and start to suck out air. And unfortunately, that's rarely the first answer. It's really not the first answer. But it's also fraught with some significant complications. There's about a 2 percent risk of colonic perforation with endoscopic decompression, according to the literature, and a 1 percent risk of mortality. You know, we need to avoid using narcotic medications as we normally do in colonoscopy for relief of pain and toleration of the procedure. In these patients that's really counterintuitive. We don't want to place them on a medication that may slow their gastrointestinal motility even more.

The success rates of endoscopic decompression have been reported to be about 95 percent, but one of the things that's often left out of those discussions is the need to continue with medical therapy of some sort after successful decompression. We need to have these patients on a bowel regimen because if all we do is go in and suck air out, chances are they will reaccumulate that air.

It's also recommended that we not prep these patients, which makes the colonoscopy that much more difficult, because it's difficult for the endoscopist to see where they're placing the scope, and that increases the risk of the scope as well. These patients are obstructed, so having them do a bowel prep can be very difficult.

And finally, there's the question of whether or not we should leave a colonic decompression tube after endoscopic decompression. The jury really is still out. In my practice I tend to do that when I can, and I do think it's useful, but there's no definitive yes/no answer with regards to the value of a colonic decompression tube after successful endoscopic decompression. I tend to reserve this modality for medical failures.

Dr. Buch:

And what should we know about surgical therapies?

Dr. Cash:

Well, surgical therapies can be used for acute colonic pseudo-obstruction. Now, it is recommended that we refer patients to surgery if there are signs or symptoms of perforation, peritonitis, or ischemia. That's very, very clear. In terms of more chronic patients where either medication and/or endoscopic decompression have not worked, there have been some surgical series with regards to a number of different mechanisms. Placing a tube from the skin into the cecum to serve basically as a venting tube have been reported to be highly effective but with some significant complications, such as wound infection, bleeding, perforation, and complications resulting from the tube placement. Certainly, surgical resection is possible where the surgeons would go in and remove part of that colon that's atonic or not decompressing, but that also has significant complications.

And we have to remember that these patients are generally very ill, so that's a major surgery in a very sick patient and thus has a significant complication rate, so we try to avoid sending patients to surgery if at all possible. But I really want to stress to the audience that if that cecal diameter is greater than 12 or there are signs or symptoms of peritonitis, perforation or ischemia, then surgical therapy is a very important option to keep in mind.

Dr. Buch:

Before we conclude, Dr. Cash, are there any closing thoughts you would like to share with our audience today?

Dr. Cash:

Well, I appreciate the time to talk about this important topic. This is a common source of consultations for us in the hospital. The estimated incidence is about 1 out of 100,000 individuals. And, of course, these are the patients that really can't tolerate these types of

complications, so I think it's really important for our audience to understand the possible causes of acute colonic pseudo-obstruction to take a very good look at the medications that they have patients on. Often times we'll have patients on PRN medications that we may not necessarily realize are counterproductive recognize the importance of keeping an eye with x-rays on the cecal diameter and using conservative therapy for at least the first day or two and then moving on to medical therapy as the next choice when appropriate and then subsequently possibly endoscopic decompression and rarely surgical management, but it's an important topic for us to be familiar with really from all of our specialties.

Dr. Buch:

That was a superb review of acute intestinal pseudo-obstruction, and I want to thank my guest, Dr. Brooks Cash, for sharing his insights.

Dr. Cash, thanks so much for joining us today.

Dr. Cash:

It was my pleasure. Thank you for having me.

Dr. Buch:

For ReachMD, I'm Dr. Peter Buch. To access this and other episodes in this series, visit ReachMD.com/GIInsights where you can be Part of the Knowledge. Thanks for listening, and looking forward to learning with you next time.