Silent and deadly: Abdominal catastrophe in the nonverbal adolescent patient

Andrew P. Rogers a,*, Jennifer C. Peterson b, Michael Wilhelm b, Peter F. Nichola

a University of Wisconsin, Department of Surgery, Division of Pediatric Surgery, 600 Highland Avenue, Madison, WI 53792, USA
b University of Wisconsin, Department of Pediatrics, 600 Highland Avenue, Madison, WI 53792, USA

A R T I C L E I N F O

Article history:
Received 2 February 2016
Received in revised form 22 February 2016
Accepted 27 February 2016

Key words:
Cerebral palsy
Abdominal catastrophe
Communication

A B S T R A C T

Pediatric care providers are often faced with the challenge of providing for patients who are nonverbal or have trouble communicating. This difficulty in communication extends into the adolescent population for some with chronic health conditions, such as cerebral palsy. Because they cannot communicate well, early warning signs of life threatening processes are important to notice. If these are dismissed, it may lead to suboptimal outcomes in this patient population. We present a case series of four adolescent males with communicative difficulties and abdominal pathology. We characterize a relatively short latency between recognized onset of symptoms and exploratory laparotomy, and suggest further investigation into early warning signs of impending disaster in this patient population.

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Children with communication difficulties can represent a diagnostic challenge. The inability of the patient to convey early signs of pain or discomfort may lead to later presentation and diagnosis of abdominal catastrophe. We present a case series of four medically complex adolescent children with communicative difficulties who presented with nonspecific findings that were found to be abdominal pathology.

1. Case reports

A sixteen-year-old male with a history of spastic cerebral palsy, epilepsy, hydrocephalus, and volvulus with bowel resection was brought to the ED following an episode of unresponsiveness. Prior to presentation, caregivers reported five days of loose stools, followed by two days of regular stools. Per caregivers, the patient seemed to be in his normal state of health that morning with the exception of nonspecific pain and a mildly distended abdomen that was not present the prior evening. A KUB showed dilated loops of bowels and air-fluid levels; CT showed dilated bowel, mild pneumatosis, and no free air. The patient was transferred to the ICU for monitoring.

The patient’s condition worsened overnight and he was taken to the OR in the morning. Exploratory laparotomy showed necrotic bowel from the ligament of Treitz to the rectum. The findings were deemed nonsurvivable, and care was withdrawn.

A ten-year-old male with a history of cerebral palsy, Lennox-Gastaut syndrome, and laryngotracheal separation presented to the ED with a one-day history of “discomfort” and tachycardia. On initial evaluation in the ED, he was found to be unresponsive, bradycardic and hypotensive requiring epinephrine to be started. A KUB showed dilated bowel loops without free air; CT scan showed a proximal small bowel obstruction, but no pneumatosis or free air.

He was taken to the OR, where an exploratory laparotomy revealed ischemic bowel and volvulus. After reducing the volvulus, the bowel appeared healthy, and a temporary closing was placed. Over the course of the next two days, the patient went into multiorgan system failure (DIC, shock liver, pancreatitis, and renal failure). He was taken to the OR on hospital day #3, where the bowel was found to still be viable. His temporary closure was replaced, and he was taken back to the ICU. However, given his poor prognosis, the decision was made to withdraw care.

A twenty-year-old male with a history of cerebral palsy, seizures, and laryngotracheal separation presented with a one-day history of abdominal distention and firmness. In the ED, he was found to be hypotensive and tachycardic, and taken to the OR while resuscitation was underway.

An exploratory laparotomy revealed necrosis from the ligament of Treitz to the terminal ileum. The insult was deemed to be non-survivable and the decision was made to withdraw care.

A ten-year-old male with a history of septo-optic dysplasia, shunted hydrocephalus, and Asperger’s syndrome presented with a...
one day history of constipation, mild abdominal pain, and increased water intake. Immediately prior to presentation in the ED, the patient was found to be pallid, cyanotic, and confused. He was electively intubated and subsequently admitted. At the time of admission, a KUB showed dilation of the colon and right sided stool burden, with no free air. His abdominal exam at the time was distended, but soft and nontender.

He initially responded appropriately to fluid bolus, but then became hypotensive, resulting in the initiation of vasopressors. His continued hypotension on hospital day #2 led to an abdominal CT, which demonstrated a sigmoid volvulus.

An exploratory laparotomy was performed, with subsequent lysis of adhesions and reduction of internal hernia. A temporary closure was placed, and once the patient was able to be weaned off of vasopressors, he was returned to the OR, where the distal two-thirds of the small bowel (including the ileocecal valve) and the sigmoid colon were resected, and a colostomy was created.

2. Discussion

The patients in this case series are medically complex adolescents with communication difficulties. These barriers to communication make it challenging even for their caregivers to identify early warning signs of impending abdominal catastrophe. Moreover, their complex medical histories lend patients such as these to multiple abdominal surgeries and a higher risk of complications from these interventions. There is little in the literature regarding management of this challenging patient population. Several case reports of cecal volvulus in the mentally handicapped have been reported [1–5], and agree that the communicative challenges associated with this population are significant. Previous studies have also noted a higher mortality rate from intestinal obstruction in the mentally handicapped [6,7], with some suggesting a correlation between mortality and male gender, chronic constipation, and younger age [6].

We note that in all four cases, there was little lead time prior to presentation. Care providers report that recognized signs of abdominal pathology were seen for less than 24 h, and this short latency reflects findings from earlier case reports [6–8]. The short course from discernable symptoms to exploratory laparotomy suggests that there may be earlier subtle warning signs that are missed because the patients were unable to effectively communicate their symptoms. As noted in previous case series, there were no specific, consistent findings on physical examination that would serve as an indication for operative intervention [6–8].

It is difficult to distinguish between the three patients who died and the one who lived on the basis of supplemental information. The lab findings of the patient who survived (#4) are not easily distinguished from those with non-survivable findings. No imaging suggested free air or distinguished one patient from another. Moreover, one of the three who died (#2) was found to have completely viable bowel at the time of exploration, and ultimately passed from a non-gastrointestinal cause (Table 1).

Given our experience, our institution has implemented changes to attempt to avoid outcomes similar to those seen in many case studies and series. We encourage our primary care providers to have a low threshold for evaluation of abdominal symptoms, and have moved to early imaging in this patient population. An abdominal radiograph followed by CT scan of the abdomen and pelvis is obtained in pediatric patients with complex medical histories and communication difficulties when they present in the emergency department. If the radiograph shows findings that indicate the need for emergent laparotomy (i.e. – free air), we take the patient directly to the OR. In the absence of radiographic findings, we proceed with a CT scan with IV contrast. We opt for CT over MRI for two reasons: 1) the CT scan is faster; and 2) in this patient population, a general anesthetic is almost always required to obtain a reliable MRI. Given the results of the CT scan, a decision is then made whether to proceed to the OR versus admission for further evaluation and monitoring.

3. Conclusion

The adolescent patient with communicative difficulties poses a challenge to clinicians and caregivers. As they cannot communicate their symptoms, it is important for clinicians to have a high index of suspicion for possible abdominal catastrophe in this patient population. Previously published cases and series report no different outcomes than those seen here, and it has been decades since many of those reports were published. It is our hope that the poor outcomes presented here may be avoided in the future with discussion and additional efforts to identify earlier warning signs in this patient group. We invite other clinicians to share their experience in these situations in order to improve outcomes in this challenging population.

References


Table 1

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