



PALLIATIVE CARE CASE OF THE MONTH

“When Eating Hurts: Managing Refractory Nausea and Vomiting in a Young Adult with SMA Syndrome”

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Case: CC is a 22-year-old woman with anxiety and no other significant medical history, who presented with superior mesenteric artery (SMA) syndrome following acute gastroenteritis. She experienced persistent nausea, vomiting, abdominal pain, and a 20 lb. weight loss. Imaging confirmed SMA syndrome, and a gastrojejunostomy (GJ) tube was placed. Despite conservative management, she had continuous bilious drainage, further weight loss, and worsening symptoms. She was transferred to a tertiary care center under surgery service for management. Her gastrostomy-tube was vented, she was started on continuous jejunostomy-tube feeds, and palliative care (PC) was consulted for symptom management.

On evaluation, she reported intractable nausea, worsened by oral intake and tube feeds, daily emesis with large volume bilious G-tube output, and post-prandial abdominal pain. Sleep disturbance exacerbated her symptoms, and her anxiety intensified as her illness prolonged. With these present, her mood approached demoralization.

Background: SMA syndrome, or Wilkie’s syndrome, is a rare condition caused by compression of the third portion of the duodenum between the aorta and superior mesenteric artery, typically due to loss of the mesenteric fat pad¹. It primarily affects thin females aged 10-39, with an estimated prevalence of 0.1-0.3%².

The major causes of SMA syndrome are rapid weight loss affecting the mesenteric fat pad, such as in dietary conditions (disordered eating), hypermetabolism (burns, drugs), and cachexia-causing conditions (malignancy, prolonged hospitalizations)¹. Anatomical variations involving the ligament of Treitz, spinal correction surgery (i.e. scoliosis), and trauma can all cause duodenal compression characteristic of SMA syndrome².

Diagnosis: Imaging, particularly CTA, shows a decreased aortomesenteric angle with bowel caliber narrowing³. Upper gastrointestinal series may show delayed gastric emptying, demonstrate the degree of obstruction, and show the effect of positioning on bowel transit³.

Management: Symptoms mimic partial small-bowel obstruction (SBO), with nausea, vomiting, bloating, post-prandial epigastric pain, and early satiety. First-line treatment is conservative: gastric decompression, fluid/electrolyte management, and nutritional support to promote weight gain⁴. Jejunal feeds or total parenteral nutrition (TPN) are considered if oral or gastric feeding fails. The overall goal is weight gain to restore the mesenteric fat pad.

Given the anatomical pathophysiology, the epigastric pain is most severe while supine, and it is often relieved in left lateral decubitus positioning, which can reduce tension on the small bowel mesentery¹.

There is limited literature on types of anti-emetics used in SMA syndrome. Given the similarities of SMA syndrome to SBO, it is reasonable to use serotonergic and dopaminergic agents, due to the prevalence of those receptors in the gut. Often, patients may have anticipatory nausea due to severe discomfort with SMA syndrome, thus GABAergic agents or anxiolytics may also be helpful. Proton pump inhibitors, such as metoclopramide (Reglan), must be used with caution, because they can exacerbate obstructive symptoms. Scopolamine or octreotide, often used to reduce gastric secretions, are used sparingly in this context given prohibitive side effects. It is unclear whether steroids would be helpful in SMA syndrome, but they may be helpful to reduce intestinal inflammation secondary to vascular duodenal compression. When conservative, non-operative measures fail, surgical interventions to bypass the obstruction are indicated, most commonly, laparoscopic duodenojejunostomy (creating a bypass from the duodenum to the jejunum)⁵.

Resolution of the Case: Prior to PC’s involvement, she was on low-dose ondansetron (Zofran) IV scheduled, low-dose olanzapine PO nightly, granisetron IV as needed (PRN), dimenhydrinate IV PRN, and prochlorperazine IV PRN. She used several PRN medications daily with no significant periods of relief of nausea, and as a result, she needed to frequently pause her tube feeds.

As the PC team, our priorities were to optimize her medication regimen, facilitate restful sleep, and create a holding space for her psychological suffering in the setting of intractable symptoms.

We gave her a symptom diary with simple rating scales to evaluate her symptom severity and the effectiveness of the different PRN medications she trialed. Through this, we discovered that ondansetron was somewhat helpful, olanzapine and prochlorperazine were mildly helpful, and granisetron and dimenhydrinate were ineffective. Over the course of a few days, in collaboration with the palliative pharmacist, we optimized her ondansetron (to 8mg IV q8h) and olanzapine (to 5mg PO qHS) dosing, maintained her prochlorperazine IV PRN, and discontinued her granisetron and dimenhydrinate. We asked nursing to cluster her care to facilitate restful sleep, and we asked nutrition to re-evaluate her tube feed formula to a gentler formulation.

Personal details in the case published have been altered to protect patient privacy.

For palliative care consultations please contact the Supportive and Palliative Care programs at PUH/MUH, 412-647-7243, pager # 8511, Shadyside, 412-647-7243, pager # 8513, Perioperative/ Trauma Pain, 412-647-7243, pager # 7246, UPCI Cancer Pain Service, pager 412-644-1724, Magee Women’s Hospital, pager 412-647-7243 pager # 8510, VA Palliative Care Program, 412-688-6178, pager # 296. Hillman Outpatient: 412-692-4724. For ethics consultations at UPMC Presbyterian-Montefiore and Children’s pager 412-456-1518

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(Resolution of the Case Continued)

She reported significant symptom improvement and was able to tolerate her new tube feeds with appreciable weight gain. She began tolerating oral intake, and, ultimately, she was discharged on olanzapine 5 mg PO qHS and granisetron transdermal patches (in lieu of ondansetron ODTs) given a high pill burden.

At her follow up gastroenterology visit three months later, she had gained 30 lbs., her duodenal caliber normalized on upper GI series, her tube feeds were discontinued with her GJ tube removed, and she continued only on olanzapine nightly, which remained given its effectiveness in managing her anxiety.

References:

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