PALLIATIVE CARE
CASE OF THE MONTH

"Palliative Management of Chronic Diarrhea"
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Volume 15, No. 56 **December 2015**

Case: Ms. LS is a 57- year- old woman with a history of T2N2M0 breast cancer diagnosed four years ago, status post mastectomy, radiation and adjunct chemotherapy. She presented to her primary care physician with complaints of bloating, nausea, and frequent, watery stools. She was initially diagnosed with irritable bowel syndrome, but progressive weight loss and nocturnal diarrhea led to further investigation. Imaging did not reveal recurrence of cancer, but biopsies ultimately demonstrated gastric and duodenal intraluminal disease consistent with metastatic breast cancer.

Despite resumption of chemotherapy her tumor marker continued to rise, and she lost 20lbs over the course of four months. She presented to my office with debilitating diarrhea, experiencing 10-12 watery movements with flecks of stool per day. The movements resulted in isolation as she was limiting trips outside the home, as well as fatigue. She felt hungry at times but eating aggravated the diarrhea and resulted in borogaymi. Fortunately, she had little pain, averaging only 15mg of codeine with acetaminophen per day. She became drowsy on higher doses of codeine. In an attempt to manage the diarrhea she alternated between loperamide (Imodium) and diphenoxylate (Lomotil) with limited success in controlling her symptoms, averaging about four doses of each per day. Her oncologist had initially tried octreotide with no improvement in symptoms.

Discussion: As with the management of any symptom in palliative care, consideration is first given to the symptom's underlying etiology. Diarrhea can be categorized as watery, inflammatory or fatty. Watery diarrhea can be further categorized as secretory or osmotic. . Often categories overlap, but this approach can help narrow the diagnostic possibilities. Common causes for diarrhea in palliative patients include:

- Overflow incontinence due to impaction of stool.
- Inflammatory diarrhea from infection.
- Side effect of radiation or chemotherapy (5-flourouracil, irinotecan, and capecitabine can be culprit).
- Side effects of medications such as laxatives, magnesium containing antacids or antibiotics may cause osmotic diarrhea.
- Malabsorption due to pancreatic insufficiency, ileal resection, or colectomy resulting in fatty stools.
- Secretory diarrhea from tumors such as carcinoid.
- Concurrent disease such as diabetes, hyperthyroidism, or inflammatory bowel disease may also result in diarrhea.

A review of diet, medications, description of quantity and quality of stool, as well as the timing of the bowel movements can help elucidate the cause. Physical exam and radiographs rule out impaction or an obstructed bowel.

In some cases a specific cause of the diarrhea is identified and targeted therapies offered such as pancreatic enzymes for fat malabsorption, cholestyramine if bile salt malabsorption is suspected or antibiotic therapy for pseudomembranous colitis.

Unfortunately, in the case of LS, the tumor was hypothesized to be causing diarrhea by a combination of mechanisms including secretory, disordered motility and perhaps inflammatory means. The targeted therapy, chemotherapy, had been ineffective, and we focused our efforts on symptomatic treatment.

Symptomatic treatment may include:

- Diet modifications such as small frequent meals, oral rehydration, and avoiding foods that may aggravate symptoms such as caffeine, spice, and milk products.
- Bulk forming agents such as Kaolin and Pectin (kaopectate)
- Opioid agents reduce gut peristalsis. Loperamide (Immodium) is the agent of first choice as it has limited activity beyond the gut and a lack of systemic side effects. The initial dose is 4mg followed by 2mg every 2-4 hours or after every unformed stool. Other opioid agents such as diphenoxylate (Lomotil) and tincture of opium cross the blood brain barrier and thus have an increased incidence of systemic side effects.
- Octreotide suppresses the release of vasoactive intestinal peptide, reduces gut motility and increases absorption of water and electrolytes. Starting dose 100mcg SC/IV three times a day, and can be titrated up to 500mcg three times a day. Adverse effects are predominantly gastrointestinal, with abdominal pain and nausea being the most common. Watch for bradyarrythmia, particularly in patients on a beta-blocker. Unfortunately, the cost can be prohibitive.
- Mucosal prostaglandin inhibitors, such as mesalamine and bismuth subsalicylate, decrease intestinal water and electrolyte secretion. Use cautiously in patients with renal impairment or history of gastric ulcer. Bismuth may cause darkening of the tongue and stool.

Resolution of Case: There was some limited success in controlling the patient's diarrhea with the addition of bismuth to her opioid agents. Unfortunately, her disease continued to progress with rising tumor markers, and imaging now demonstrated disease consistent with peritoneal carcinomatosis. As is common with carcinomatosis she developed a partial small bowel obstruction. This was likely a result of both her tumor burden and the side effects of her anti- diarrheal agents. She is presently enrolled in a clinical trial.

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

For palliative care consultations please contact the *Palliative Care Program at PUH/MUH*, 647-7243, beeper 8511, *Shadyside Dept. of Medical Ethics and Palliative Care*, beeper 412-647-7243 pager # 8513, *Perioperative/ Trauma Pain* 647-7243, beeper 7246, *UPCI Cancer Pain Service*, beeper 644 –1724, *Interventional Pain* 784-4000, *Magee Women's Hospital, beeper 412-647-7243 pager #: 8510, VA Palliative Care Program, 688-6178, beeper 296. Hillman Outpatient: 412-692-4724. For ethics consultations at UPMC Presbyterian-Montefiore* and Children's page 958-3844. With comments about "Case of the Month" call Dr. Robert Arnold at (412) 692-4834.

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