Your patient presents with a history of ovarian carcinoma, 2 years post pelvic exenteration, chemotherapy, and pelvic radiation therapy. She has a colostomy and an ileal conduit. She now is experiencing extremely high output from her colostomy, symptoms of dehydration, frequent leakage and skin irritation, and a short wear time of 24 to 48 hours for her colostomy pouching system. After her physician and ostomy clinician make a thorough assessment, the diagnosis is radiation enteritis.

The National Cancer Institute defines radiation enteritis as, “inflammation of the small intestine caused by radiation therapy to the abdomen, pelvis, or rectum.” The linings of both the large and small bowel are particularly sensitive to radiation. Because radiation attacks rapidly dividing cells such as the normal cells lining the intestines, healing the bowel after radiotherapy becomes difficult. As these cells die, they are not replaced and the walls of the bowel become swollen and inflamed, causing gastrointestinal symptoms. The amount of damage to normal bowel tissue is related to the dose of radiation: the larger the dose, the greater the damage. Because tumors in the abdomen and pelvis usually require large doses of radiation, nearly all patients receiving radiotherapy in these anatomical locations experience some form of radiation enteritis.

**Acute or Chronic?**

It is important to note that radiation enteritis can be acute (symptoms appearing during the first course of treatment and up to 8 weeks later) and/or chronic (symptoms appear months or even years after completion of radiation treatments). According to the National Cancer Institute, 5% to 15% of patients who undergo radiation therapy to the abdomen, pelvis, or abdomen will develop the chronic form of radiation enteritis. Symptoms of both acute and chronic radiation enteritis include nausea, vomiting, abdominal pain and cramping, frequent bowel movements, watery or bloody diarrhea, fatty stools, and weight loss. The timing of the emergence of the symptoms and/or their duration is a factor in determining acute or chronic enteritis. However, before making a diagnosis of chronic radiation enteritis, the presence of recurrent tumors must be ruled out.

The patient assessment should include the following information:

- The amount of normal bowel treated
- The dose of radiation given
- The size of the tumor
- The presence of metastatic disease
- Whether chemotherapy was a part of the treatment regimen
- Whether radiation implants were part of the treatment regimen
- How much large and small bowel remain (to rule out concomitant small bowel syndrome)
- The existence of conditions that may decrease blood flow to the bowel (for example, diabetes, hypertension, previous abdominal surgery, pelvic inflammatory disease)

**Diarrhea.** Diarrhea is an abnormal increase in the amount of stool that lasts more than 4 days but less than 2 weeks. If diarrhea lasts longer than 2 months,
it is considered a chronic problem. The most common cause of diarrhea in patients with cancer (with or without a fecal ostomy) is the treatment (ie, chemotherapy and/or radiation therapy).

Additionally, clinicians should remember that diarrhea also is a symptom of a bowel obstruction, another potential complication of radiation enteritis. Patients who have had abdominal surgery and radiotherapy have a greater risk of developing a bowel obstruction. Common cancers that can cause bowel obstruction occur in the colon, stomach, and ovary or result from metastatic abdominal disease; some frequently require colostomy or ileostomy surgery.

Management

Recurrent disease must be ruled out and steps taken to correct fluid and nutritional deficits and to relieve diarrhea. Antidiarrheals and psyllium bulking agents may be beneficial. The National Cancer Institute recommends the BRAT diet (bananas, rice, apples, toast) and 3 quarts of fluids per day. More severe cases may require intravenous or parenteral nutrition. A vital therapeutic goal is to minimize fluid and electrolyte losses by slowing intestinal transit and decreasing intestinal secretions.

Ostomy Management

Stoma-related problems often associated with radiation enteritis also must be managed. Consideration of convexity and use of extended-wear skin barriers and skin barrier pastes or solid skin barriers may help improve the adhesive-to-skin seal, increase wear time, and protect the peristomal skin from the corrosive action of high output liquid stool. Drainable pouches always are indicated when output is high. Sometimes patients prefer a one-piece system because the weight of the effluent may dislodge the pouch from some two-piece systems. Others find a two-piece system easier to manage because the skin barrier can remain on the skin while the pouch is changed. These options should be discussed in detail — each patient should be afforded the opportunity to determine which system accommodates his/her lifestyle and stomal output.

If the volume of liquid stomal output is excessive (>3 L in 24 hours), additional collection capacity may be added by attaching a leg bag or bedside container to the pouch outlet. If fecal output is entirely liquid, switching to a urinary pouch with a drainable tap may facilitate managing the high volume and make emptying the pouch easier for the patient. Attaching an ostomy appliance belt to the ostomy pouching system can provide additional support for the weight of the pouch.

The impact of a diagnosis of cancer, followed by ostomy surgery, radiation, and chemotherapy, and then dealing with radiation enteritis can be devastating to an individual’s sense of self and overall quality of life. Clinicians caring for people with a fecal ostomy and radiation enteritis must make every attempt to ameliorate ostomy management, prevent peristomal skin complications, correct fluid and nutritional deficits, and manage diarrhea.

References


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