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Rectovaginal Fistulas

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Your patient has a new or unusual symptom. What tests would you request first, and how are they interpreted? This column, dedicated to advanced practice nurses and experienced oncology nurses, will discuss a variety of assessment and diagnostic techniques to help in the evaluation and management of clinical problems. If you are interested in writing for this column, contact Associate Editor Catherine Burke, MS, APRN, BC, ANP, AOCN®, via e-mail at cburke@mdanderson.org.

Chief Complaint

D.K. is a 47-year-old woman with recurrent, unstaged cervical cancer. After eight cycles of chemotherapy, D.K. presented with a two-week history of stool leaking from her vagina. A computed tomography (CT) scan revealed a small amount of air in the vagina, raising the possibility of a rectovaginal fistula. A pelvic examination revealed a malodorous, fecal discharge from the vagina and perineal excoriation. Fullness was noted at the vaginal apex, but a fistulous tract was not seen or palpated.

Past Medical History

D.K.'s cancer was diagnosed about three years ago when she underwent a total abdominal hysterectomy with bilateral salpingo-oophorectomy for menorrhagia that was presumed to be secondary to uterine fibroids. Pathology showed an unexpected, deeply invasive, moderately differentiated squamous cell carcinoma of the cervix. Postoperatively, she was treated with external beam radiation therapy to the pelvis followed by brachytherapy to the vaginal cuff.

About 18 months later, a vaginal cuff biopsy was positive for recurrent disease. She was referred to a cancer center for treatment recommendations. Although salvage surgery was considered, a workup revealed unresectable disease. She received chemotherapy as part of a clinical trial.

Rule Out Rectovaginal Fistula

A rectovaginal fistula is an abnormal, epithelium-lined tract between the rectum and vagina. Rectovaginal fistulas are rare and account for about 5% of anorectal fistulas. The major causes of rectovaginal fistulas are listed in Figure 1. In patients with gynecologic cancer, rectovaginal fistulas usually are the result of tumors or pelvic radiation, and fecal diversion is required (Burke & Levenback, 1994). No uniform classification system has been developed for rectovaginal fistulas, and they typically are described according to cause, location, and size (Tsang & Rothenberger, 1997). Simple rectovaginal fistulas are small to medium in size, involve the lower half of the vagina, and are caused by either trauma or infection. Complex rectovaginal fistulas are large, involve the upper half of the vagina, and usually are related to neoplasm, inflammatory bowel disease, or radiation therapy (Schrock, 1994; Tsang & Rothenberger).

The frequency of postirradiation rectovaginal fistulas is generally less than 5% (Perez, Grigsby, Lockett, Chao, & Williamson, 1999), with increased risk associated with higher doses. The rectum is the most common site of bowel injury, with peak incidence of fistula formation occurring two to five years after therapy. The rectal tolerance dose is 45–50 Gy (Hayne, Vaizey, & Boulos, 2001), and the incidence of gastrointestinal injury increases when the radiation dose exceeds 50 Gy. Some comorbidities that increase the risk for gastrointestinal complications are diabetes, cardiovascular disease, hypertension, advanced age, cigarette smoking, concurrent chemotherapy, and prior pelvic surgery, including hysterectomy (Saclarides, 2002).

Bowel injuries associated with radiation therapy include proctitis and ulceration, which may be acute- or late-phase complications. The risk of proctitis correlates with the dose of radiation and the rectal volume in the irradiated field. Mild trauma or repeated infection in a background of proctitis can result in tissue breakdown. An area of injury may fistulize because the irradiated tissue has reduced regenerative properties and is unable to heal itself. For this reason, biopsies generally are not taken within an irradiated field unless suspicion for carcinoma is high. Newer techniques in treatment planning may reduce complications by more precisely directing treatment to the tumor while minimizing the dose to adjacent structures (Hayne et al., 2001).

Symptoms

The passage of flatus and stool from the vagina is the most common symptom associated with a rectovaginal fistula. The psychosocial impact is devastating. For women with small fistulas, the involuntary loss of flatus may be the only presenting symptom. Other women may experience liquid bowel movements, a foul-smelling vaginal discharge, recurrent or chronic vaginitis, and excoriation of the

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