The Prophylactic Use of Probiotics in the Prevention of Radiation Therapy-Induced Diarrhea

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Cancer treatment regimens that include radiation therapy (RT) to the abdominal region for cervical, ovarian, prostate, sigmoid, or colorectal cancer potentially disturb the colonization resistance of the indigenous gut flora, causing RT-induced diarrhea, enteritis, and colitis in more than 80% of patients with cancer. One approach for the prevention of RT-induced diarrhea is the use of probiotics. Randomized clinical trials have demonstrated efficacy of probiotic preparations VSL #3 and Lactobacillus casei DN-114 001 in decreasing the incidence and grade of RT-induced diarrhea. Oncology nurses and advanced practice clinicians are in a position to interpret research findings related to RT-induced diarrhea, enteritis, and colitis and to apply evidence-based practice principles in patients with cancer receiving RT to promote positive outcomes.

At a Glance
- Radiation therapy (RT) to the abdominal and pelvic region can cause RT enteritis, a gastrointestinal tract inflammatory process that leads to severe diarrhea.
- Probiotics such as VSL #3 and Lactobacillus casei DN-114 001 have demonstrated efficacy in reducing the incidence and severity of diarrhea from RT enteritis.
- Oncology nurses and advanced practice clinicians are instrumental in providing patients with evidence-based information on the use of probiotics to decrease diarrhea.

lead to diarrhea include the malabsorption of lactose and bile acids, altered composition of intestinal flora, and changes in the structure of intestinal motility resulting in impaired secretion, absorption, and immune function of the digestive tract (Blanarova et al., 2009; Giralt et al., 2008).