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Lower-Extremity Lymphedema in a Patient With Gynecologic Cancer

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Case Study

H.F. is a 56-year-old woman who presented to the gynecologic oncology department at a major comprehensive cancer center after an endometrial biopsy revealed an International Federation of Gynecology and Obstetrics grade III serous carcinoma of the endometrium. In addition to relevant endometrial cancer statistics, she received information about choices for treatment. The standard surgical treatment at the cancer center consists of a total abdominal hysterectomy with bilateral salpingo-oophorectomy, pelvic lymph node dissection, and para-aortic lymph node sampling. The acute and chronic side effects of surgery were discussed, including development of lower-extremity lymphedema. H.F. was informed that the lymphedema could occur anytime after surgery and she would need to monitor for lymphedema development for the rest of her life.

After preoperative testing, H.F. had an uneventful surgical procedure and routine postoperative course. The final pathology showed high-grade stage IIIC papillary serous carcinoma deeply invading the endometrium, with spread to a left para-aortic lymph node. As a result, her oncologist recommended both radiation and chemotherapy.

H.F. completed all therapy and was scheduled to return every three months for evaluation. She was cautioned to maintain skin integrity by applying moisturizers and sunscreen as needed and to avoid sources of trauma, injury, infection, and constriction to the lower extremities. In addition, she was encouraged to maintain her weight with a healthy diet and nonstrenuous exercise. Because H.F. lived out of state, she was advised to ambulate and hydrate during air travel to the cancer center and consider the use of individually fitted compression stockings (see Figure 1).

H.F. knew that she had a serious cancer diagnosis, but after the treatment was completed, she expressed joy and hope for the future. She was determined to get back to her former lifestyle. She worked full-time as a high school music teacher, gave private piano lessons, and performed with a local theater group every month. H.F. was active in her church, playing the organ at Sunday services. In addition, she played the piano at a local nursing home each week. She said that she received so much more than she gave when she saw the positive effect that music had on others. H.F. maintained her weight with diet and by walking briskly with her dog and a group of dog owners. She now added the required three-month follow-up appointments to her busy schedule.

Approximately six months after completion of treatment, H.F. called the office to report that she had developed swelling in her left leg. She was not sure exactly when it had developed because the swelling decreased at night when she elevated her leg. Although the swelling returned during the day, she attributed it to "doing too much." She stopped walking her dog with the group, thinking that it may have caused the swelling. In the previous few days, H.F. noticed that the swelling did not automatically resolve after a night of sleep.

H.F. was seen for an office visit. Examination of her left leg revealed that she had pitting edema of the left foot, ankle, and calf with shiny tight skin. The leg was not red or warm to touch, and no areas were open on the skin. Her toenails and the creases between her toes were intact. A Doppler ultrasound of the left lower extremity was negative for deep vein thrombosis. A computed tomography scan of the abdomen and pelvis revealed no evidence of recurrent cancer.

H.F. was referred to a lymphedema specialist for evaluation and complex decongestive therapy, a multimodality approach to lymphedema treatment consisting of manual lymphatic drainage, compression wrapping, exercises, and skin care recommendations. H.F. was taught various exercises and how to wrap the affected limb. She was fitted for a compression gradient stocking to wear when traveling by plane (see Figure 2).

A few months later, H.F. returned to the office for a routine follow-up examination and was not in her usual upbeat mood. She admitted to being lax about lymphedema home care, and now the swelling had returned. In addition, the swelling seemed more resistant to self-treatment and was affecting many areas of H.F.'s life. She noticed that when she sat at the piano for lessons or at the organ in church on Sundays, the swelling in her leg increased. H.F. now had to modify her clothing by wearing long skirts and dresses to cover her large, uneven leg. She began to take over-the-counter pain medication for the heavy, achy feeling in her leg. H.F. continued to teach because she needed a source of income, but she lost her desire to be in public. She stopped playing the organ in church and the piano for the seniors at the nursing home. She continued to walk her dog but noticed that her pace was slower.

H.F. was given a prescription for pain and sleep medication to use as needed. She was referred to a psychologist to evaluate any depression and bolster her coping mechanisms. She was encouraged to find a local support group through the American Cancer Society.

After a thorough medical examination determined that H.F. did not have recurrent disease,

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