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Thermal Wounds Following Heating Pad Use

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Patient History

Ms. C, a 59-year-old female, was diagnosed with breast cancer in 1986 and underwent a right-sided, modified radical mastectomy with axillary lymph node dissection. The exact number of lymph nodes sampled is unknown; however, those sampled were negative for disease and adjuvant treatment was not necessary.

In 1999, Ms. C developed recurrent disease that had metastasized to the sternum. She was referred to a radiation oncologist for a palliative radiation therapy evaluation. Upon physical examination, the patient appeared to have two burn sites on the lateral aspect of the right scapular area. According to Ms. C, the injury resulted from falling asleep on a heating pad. She complained of patchy numbness and decreased sensation in the burn area and her right arm, which had been present since her modified radical mastectomy. She reported occasional pain in the surgical area that she "learned to live with." When interviewing Ms. C, it became evident that she was unaware that she should not use a heating pad on an area of patchy numbness and decreased sensation.

FIGURE 1. POSTERIOR RIGHT SCAPULA AREA SHOWING TWO THERMAL WOUNDS

Discussion

Figure 1, from February 5, 2001, shows Ms. C with two burn sites. Site one measured 4 cm x 3 cm, and site two measured 1.5 cm x 1.5 cm. Both sites had pink granulation tissue with eschar in the center, and no signs of infection were present. Ms. C was instructed to cleanse both sites each morning in the shower and apply a nonadhering gauze dressing. After her daily radiation treatment, each site was cleansed with normal saline and redressed. On February 19, site one measured 2 cm x 1.5 cm and site two measured 0.5 cm x 0.5 cm. On March 1, site one measured 1 cm x 1 cm and site two had completely healed. By March 12, site one measured 0.5 cm x 0.5 cm and was healed by the patient's follow-up visit on March 26.

What patient population is at risk for developing injury to this area of the body?

Women who undergo a modified radical mastectomy have their nipple, breast, and most or all of the lymph nodes removed from under the affected arm. These women, as well as those women who have breast-conserving treatment, are at risk for developing postmastectomy neuropathy. Patients may experience a variety of sensory alterations after breast cancer surgery because of injury or resection of the nerves. These sensations may not only be distressing and complex, but also may have a serious impact on quality of life.

During surgery, the nerve supply to the inside of the arm often is affected and the intercostobrachial nerve can be stretched, injured, or severed. This nerve supplies the sensory innervation to the axilla and the skin on the upper half of the medial and posterior aspect of the arm. Resection or injury of this nerve often results in sensations such as numbness of the axillary skin and the skin of the upper inner ipsilateral arm (Baron, 1998). This is commonly referred to in the literature as postmastectomy pain (PMP) or PMP syndrome and is experienced by women who undergo a mastectomy or lumpectomy with axillary lymph node dissection. With PMP, pain is felt specifically along the distribution of the intercostobrachial nerve, starting with the area over the incision on the chest and radiating into the arm on that side of the patient's body (Randal, 1998). The pain typically is described as numbness, a pins-and-needles sensation, burning, or stabbing. Classified as neuropathic pain, PMP usually exceeds the normal postoperative recovery period of three months (Smith, Bourne, Squair, Phillips, & Chambers, 1999).

Researchers have found that women undergoing surgery for treatment of breast cancer experience short- and long-term effects. In a retrospective study, 330 women who underwent axillary lymph node dissection two to five years earlier completed a questionnaire about sensations experienced in the axilla, breast, or chest during the previous two weeks (Warmuth et al., 1998). The researchers found that 35% of the women reported numbness and 30% described some amount of axillary, breast, or chest pain. Younger patients reported pain more frequently (Warmuth et al.). In another study, 43% of women surveyed reported

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