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Implanted Ports: Skin Erosion

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Ms. J is a 52-year-old female who had a left hemicolectomy with node dissection for stage III colon carcinoma. The primary tumor was 3 cm in diameter with invasion through the bowel wall into the mesenteric fat. Ms. J was offered adjunct chemotherapy with weekly 5-fluorouracil and leucovorin for a total of 48 weeks. An implanted port was placed in the subclavicular area of the anterior chest wall to administer chemotherapy. Ms. J tolerated the chemotherapy without untoward effects until she presented to the clinic for her 32nd treatment. As the nurse observed the port site, she noticed that a portion of the port edge eroded through the skin (see Figure 1). The area appeared slightly erythematous but without drainage or edema. The patient exhibited no systemic signs of infection. Because the portal body had eroded through the skin, peripheral access was obtained to administer the chemotherapy and the port subsequently was removed. Fortunately, Ms. J did not experience an infection in the port pocket from the skin erosion.

A potential complication of implanted ports is the erosion of skin with extrusion of the portal body. Erosion can occur within days after port implantation if the incision site overlies the port septum and wound dehiscence occurs (Beheshti et al., 1998). Erosion can develop over time when the port septum is accessed at the same location each time, causing the skin to focally erode (Whitman, 1996). Erosion can result from the loss of viable tissue over the implantation site exposing the portal body (Camp-Sorrell, 1992). The loss of viable tissue also can occur if the patient has lost a substantial amount of weight (Camp-Sorrell, 1992). Implanted ports that are placed just under the skin surface in active patients are vulnerable to repetitive movement that may



FIGURE 1. SKIN EROSION WITH AN IMPLANTED PORT

cause the overlying skin to erode. Ethyl chloride spray, when used as a topical anesthetic to access the port on a weekly basis, can be a cause of skin breakdown. Frostbite or skin ulceration are untoward effects of using this spray frequently (Moureau & Zonderman, 2000). Erosion also can develop because of poor wound healing of the port insertion site, especially if the incision overlies the portal septum (Whitman). Erosion of the skin usually is a gradual process that can permit bacteria to become trapped in the port pocket. As a result of skin erosion, a scab can form that allows microorganisms to enter the port pocket, which causes a port pocket infection.

The incidence of skin erosion is unknown because not all occurrences of port erosion are reported in the literature. However, researchers believe that it occurs rarely, with one to four eroded ports reported anecdotally in reviews of port complications in pediatric and adult patients (Ballarini et al., 1999;

Brothers et al., 1988; Collins, Khair, Liesner, & Hann, 1997; Eastridge & Lefor, 1995; Lorch, Zwaan, Kagel, & Weiss, 2001; McMahon et al., 2000; Pettengell, Davies, & Harvey, 1991; Starkhammar & Bengtsson, 1985; Yip & Funaki, 2002). According to Lersch et al. (1999), port erosion has been found to occur when implanted ports are placed peripherally in the arm. With the exposure of the portal body and the potential for a port pocket infection, the port must be removed. Other interventions that can be incorporated into the patient's plan of care include improving the patient's nutritional status and providing appropriate skin care (Camp-Sorrell, 1992, 2003; Whitman, 1996).

Skin erosion is a rare complication of implanted ports. As this case study illustrates, nurses must visually assess implanted ports for signs and symptoms of skin erosion, promptly recognize this complication, and intervene for the patient's safety. In addition, patients at high risk for port erosion, such as active patients with shallowly placed ports and those who have lost significant amounts of weight, should be informed about the signs and symptoms of port erosion and instructed to notify their healthcare providers immediately if they suspect that port erosion is imminent or has occurred.

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