Breast cancer is the most common malignancy in women, with an estimated one million cases identified each year (McPherson, Steel, & Dixon, 2000). The American Cancer Society (2008) estimated that more than 40,000 women will die of breast cancer in 2008. Therapy for breast cancer has dramatically increased survival, decreased morbidity, and improved quality of life for survivors. One of the most stressful aspects of a breast cancer diagnosis is the evaluation for metastasis. Sentinel lymph node biopsy (SLNB) has replaced traditional axillary node dissection in the staging of breast cancer. The advantages of SLNB over axillary dissection are numerous, including decreased scarring, numbness, lymphedema, and pain (Schwartz, 2004).

In preparation for the SLNB, lymphatic pathways are mapped using lymphoscintigraphy. During this radiologic procedure, the patient is awake and alert. A radioactive tracer is injected, usually intradermally, into the breast tissue near the tumor. Anecdotal reports from radiology nurses, who monitored patients during injection, provide description of patients’ behaviors consistent with complaints that the injection procedure is extremely painful. Current standards for SLNB lymphoscintigraphy do not include pain management interventions for the tracer injection (Motomura et al., 2007).

The eutectic mixture of local anesthetics (EMLA) cream has been used effectively in a variety of painful dermal procedures for the past 25 years. In addition to dermal surgical procedures, such as removal of genital warts, debridement of leg ulcers, and laser treatment of port wine stains, EMLA has been used widely in reducing injection pain (Fetzer, 2002). Nurses routinely apply EMLA cream prior to lumbar puncture to reduce pain experienced by children (Prevent needless pain, 2007). Bloch et al. (2004) compared EMLA with a placebo cream to ameliorate injection pain during injection of depot antipsychotic medications. Using a double blind, placebo-controlled, crossover procedure, EMLA significantly reduced injection pain.

Fetzer conducted a meta-analysis on the use of EMLA to reduce the pain of IV insertion and reported that 85% of the population would obtain pain relief from EMLA. However, research reporting the use of EMLA for SLNB tracer injection pain could not be identified.

Background

The first lymph node to which lymphatic drainage and metastasis from breast cancer occurs is, by definition, the sentinel node (Schwartz, 2004). If the sentinel node(s) can be identified preoperatively and dissected and evaluated for cancer cells, then the appropriate surgical procedure can be performed. Two nonsurgical techniques are used to identify the sentinel node.