LYMPHATIC PATHWAYS OF THE UPPER MEDIAL QUADRANT OF THE BREAST IN HEALTHY WOMEN: RADIOTRACER STUDY OF THE SENTINEL LYMPH NODE

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ABSTRACT

This study examined the lymphatic drainage after injection of a radiotracer into the upper medial quadrant of the breast in healthy women. Most studies of lymphatic pathways of the breast have been performed in patients with breast cancer and concentrate on the upper lateral quadrant of the breast because of the high incidence of carcinoma at this site. The lymphatic drainage pathways of the medial half of the breast, however, has been less studied. A radiotracer (Tc-99m human serum albumin nanocolloid or HSA) was injected intradermally into the upper medial quadrant of the right breast in 12 healthy women. Dermal markers were placed at the middle of the clavicle, the axilla and at the jugular incisura. Three minutes after injection a static image of the injection site was made with a scintillation camera (Multispect 2 Gamma Camera System) over 20 seconds. After nine minutes, local soft massage was instituted at the injection site for 6 minutes. Fifteen minutes after injection, a graphic scintigraphic image was made of both breasts and axillae over 22 minutes. After this interval, three or four static images were made for a few seconds to locate the sentinel lymph node as related to the injection site.

A sentinel lymph node (lymphatic pathway) in the axilla was visualized in 11 subjects (91.9%) and was undetected in one subject (8.3%). The radiotracer migrated in all patients (100%) towards the ipsilateral axilla. In 9 subjects, the sentinel lymph node was visualized 15 minutes after injection, whereas in 2 subjects it appeared within an hour.