

Evaluation of lymphatic compensation by lymphoscintigraphy in the postoperative period of breast cancer surgery with axillary dissection

Laura Ferreira de Rezende¹, Felipe Villela Pedras², Celso Dario Ramos², and Maria Salete Costa Gurgel¹

¹Department of Obstetrics and Gynecology, and ²Nuclear Medicine Division, Department of Radiology, Universidade Estadual de Campinas UNICAMP Medical School, São Paulo, Brazil

ABSTRACT

Objective. To evaluate postoperative lymphatic compensation in the upper limb after mastectomy with axillary dissection.

Subjects and methods. Twenty-three patients who underwent lymphoscintigraphy before and 60 days after surgery were enrolled from September 2006 to June 2007, in Campinas, Brazil. Protocol examination consisted in static imaging of each upper limb in semi-flexion and thoracic imaging after 10 min and 1 and 2 hr after subcutaneous injection of 1 mCi (37 MBq) of ^{99m}Tc dextran into the dorsum of the hand. A comparative analysis was made of hepatic uptake of the radiopharmaceutical, velocity of axillary lymph node visualization (I, visible at 10 min; II, at 1 hr; III, at 2 hr; IV, not visible) and degree (intensity) of uptake (a, marked; b, moderate; c, mild; d, absent) before and 60 days after surgery.

Results. In the preoperative period, 3 (13%) patients were considered to have an optimal pattern (Ia) and 2 (9%) showed total involvement (IVd). Compared to velocity in the postoperative period, 9 (39%) patients showed no difference, 5 (22%) improved, 9 (39%) became worse, and one was considerably worse. Regarding the degree, 10 (43%) patients showed no difference, 9 (39%) became worse, and 4 (17%) improved. Regarding classification, 2 (9%) patients had an optimal lymphatic pattern (Ia) and 3 (13%) had total involvement (IVd). No patient presented decreased hepatic uptake after surgical treatment.

Conclusions. The study found relevant changes in preoperative and postoperative lymphoscintigraphy, demonstrating the existence of functional differences in the lymphatic system of the upper limb. Alterations in lymphatic drainage pattern may already be perceived 60 days postoperatively, as can signs of lymphovenous anastomoses.

Key words: axillary dissection, breast cancer, lymphatic drainage, lymphatic system, lymphoscintigraphy.

Correspondence to: Prof Laura Ferreira de Rezende Franco, Rua Laguna 676, apto 43, CEP 37701-074, Poços de Caldas, MG, Brazil.
Tel +55-35-37153281;
fax +55-35-3721-6343;
e-mail rezendelaura@hotmail.com

Received January 18, 2010;
accepted January 21, 2011.