

Controversies about the technique for detection of sentinel lymph node after surgical manipulation of breast tissue

Controvérsias da técnica de detecção do linfonodo sentinela com manipulação cirúrgica prévia do tecido mamário

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The theme of the study published in the present issue of **Radiologia Brasileira**, whose title is "Sentinel lymph node detection after transaxillary augmentation mammoplasty: a prospective controlled study utilizing lymphoscintigraphy in 43 breasts" is extremely modern and interesting. The subject is relevant, considering that the technique utilized for sentinel lymph node detection is already included in the mandatory process of preoperative evaluation of patients with early stage breast carcinoma. This procedure has avoided unnecessary axillary emptying in cases where a careful histological analysis of the sentinel lymph node demonstrates absence of neoplastic infiltration. There is sufficient evidence in the literature confirming the high negative predictive value of this technique for involvement of the axilla ipsilateral to the breast affected by the tumor. However, some controversies still remain about the adoption of this technique in specific circumstances such as after a previous surgical manipulation of the breast affected by the neoplasm. The matter is even more relevant if the axilla, and not exclusively the mammary parenchyma, is previously manipulated, like in the case described in the mentioned article. It is questioned whether, in these circumstances, the loss of anatomical integrity of the mammary parenchyma resulting from the surgery could affect the usual lymphatic drainage network of the breast and, for this reason, would impair the validity of the concept of drainage to a sentinel lymph node.

Many authors accept the theory of lymphatic drainage from different breast quadrants towards the areola and from the areola towards the axilla. Therefore, it is postulated that, as a portion of the breast tissue is removed, the lymphatic network regenerates to an extent to maintain the drainage towards the areola and from the areola towards the axilla. For this reason, procedures for post-mammotomy lymph node detection or minimally invasive breast procedures are not currently considered as contraindicated. However, it is important to note that the majority of data regarding long-term clinical follow-up of patients submitted to the technique for sentinel lymph node detection with the objective of demonstrating the absence of a negative prognostic impact is based on classic cases, i.e., without previous surgical manipulation of the breast.

But, the impact on the lymph node detection is still to be determined in cases where also the axilla has been previously

manipulated like in cases of transaxillary augmentation mammoplasty. This is more relevant as one considers the significant increase in the number of aesthetic mammoplasty surgeries in the last years, particularly those performed by transaxillary approach, allowing the scar concealing under the manipulated breast. However, there is a scarcity of studies in the literature evaluating specifically this topic. The first study published in the literature was developed by our group at Universidade de São Paulo, analyzing the results of lymphoscintigraphy in 26 patients both before and 10 days after transaxillary augmentation mammoplasty. Drainage to lymph nodes was absent in only two of these patients (7.6%) in the postoperative period, suggesting that the technique can be utilized for lymph node detection in the majority of patients submitted to this type of aesthetic breast surgery (*Ann Plast Surg.* 2007;58:141–9). A second study has been published by other Brazilian group, in Curitiba, PR, where 20 patients were submitted to lymphoscintigraphy 30 days, and again, six months after mammoplasty. The merit of this study was that the authors have extended the follow-up for longer periods, when postoperative inflammatory alterations have already regressed, so the chances for interference with the drainage pattern were reduced. The authors of this study have demonstrated a successful drainage in 100% of their patients, with no difference in the sentinel lymph node detection rate (*Aesthetic Plast Surg.* 2008; Jul 26).

The authors of the study published in the present issue have opted for a slightly distinct design, comparing the patients with a control group in the postoperative period. Although the methodological design adopted may be questioned as far as intergroup differences are concerned, the authors demonstrated that drainage has occurred in 100% of the patients in the group submitted to surgery. However, it is important to note that uncertainties still remain in relation to the feasibility of this technique for predicting the axillary nodal status. Data are still lacking to confirm whether a lymph node detected in the postoperative period is the same preoperatively identified. Above and beyond all other considerations, either short- or long-term longitudinal studies are still lacking to confirm the high negative predictive value of the lymph node detection technique for determining the axillary nodal status, particularly in these patients. Therefore, long-term longitudinal studies are necessary to confirm the prognostic value of this technique in this subgroup of patients.

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