Sentinel lymph node biopsy in breast cancer: Our experiences

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Determination of axillary nodal status (ANS) is the most important particular prognostic information on the patients with invasive breast cancer (IBC), essential for the staging and adjuvant chemotherapy. Conventional surgical approach, which involves axillary lymph node dissection (ALND) is often associated with considerable morbidity that could be avoided by applying less aggressive procedures. It primarily refers to early breast cancer in patients with low risk of axillary nodal metastases (ANM), with clinical negative axilla and in those cases where the adjuvant treatment could be designed on the basis of information obtained by pathological analysis of tumor. Intraoperative lymphatic mapping, identification and analysis of the sentinel lymph node could predict the status of axillary lymph nodes. Sentinel lymph node (SLN) is defined as the first lymph node to receive drainage from a primary tumor. By injecting patent blue vital dye subdermally, either around the primary tumor diameter less than 3 cm or directly in the walls around tumor cavity after excision biopsy of neoplasm in patients with clinical negative axilla. Blue stained nodes were identified, removed by surgical exploration and analyzed intraoperatively by frozen section and definitive paraffin findings. The finding obtained by intraoperative analysis of frozen section was compared with final paraffin finding, which was obtained after axillary dissection as a part of conservative or radical surgical approach. We enrolled 64 patients with breast cancer. The sentinel lymph node was identified successfully in 53 (82%). Frozen section accurately predicted axillary nodal status in 49 patients (92.4%), on definitive paraffin section predictive value was 96.22% (accurately predicted ANS in 51 patients). Sensitivity (number of positive SLNB divided by the number of patients with ANM multiplied by 100) was 59% for intraoperative findings (10 positive SL on the frozen section) and 71% (12 patients) on the definitive findings 17 patients with axillary nodal metastases. Specificity (number of negative SLNB divided by number of patients without axillary lymph node metastases multiplied by 100) was 83% (39 negative SLNB patients out of 47 node negative patients). Overall accuracy (total number of true positive and true negative SLNB divided by the total number of the patients that were enrolled in study) was 76% for intraoperative results (49 out of 64) and 79% for definitive results (51 out of 64). In two patients with "ex tempore" negative SLNB micrometastases were found in definitive examination but in cases of two patients with definitive negative SLN some other positive axillary lymph nodes were found (false negative result that could indicate skip metastases). In 14 patients who each had only one positive axillary lymph node SN were accurately detected in 7 intraoperative accurate examination and 9 definitive findings. This study confirms that identification of the sentinel lymph node with vital blue dye is technically possible in our conditions and that histologic characteristics of the SLN probably reflect axillary lymph node status. Some outstanding questions need other investigations: Is this procedure quite safe to be included in the routine breast cancer treatment of the patients with low