**Table 3: Diagnostic value of the published literature (PUBMED) in breast cancer axillary lymph node evaluation using Tc99m sestamibi.**

| Author | Sensitivity (%) | Specificity (%) | N° of patients | Ref.N° |
|---|---|---|---|---|
| Lam et al. *Eur J Nucl Med, 1996* | 64 | 90 | 31 | 16 |
| Cistaro et al. *Minerva Chir, 1997* | 75 | 90 | 45 | 17 |
| Schillaci et al. *Anticancer Res, 1997* | 61.9 81 * | 96.4 92.9 * | 49 | 18 |
| Akcay et al. *Clin Nucl Med, 1997* | 66 | 100 | 30 | 19 |
| Tolmos et al. *Am Surg, 1997* | 75 | 82 | 31 | 20 |
| Perre et al. *Eur J Surg Oncol, 1997* | 91 | 64 | 36 | 21 |
| Taillefer et al. *J Nucl Med, 1998* | 79.2 | 84.6 | 100 | 22 |
| Danielsson et al. *Acta Radiol, 1999* | 67 | 80 | 58 | 23 |
| Arslan et al. *Nucl Med Commun, 1999* | 68 | 93 | 77 | 24 |
| Mulero et al. *Rev Esp Med Nucl, 2000* | 36 | 100 | 84 | 25 |
| Yutani et al. *J Comput Assist Tomography, 2000* | 38* | NA | 40 | 15 |
| Nishiyama et al. *Eur J Nucl Med, 2001* | 73 | NA | 50 | 26 |
| Lumachi et al. *Eur J Surg Oncol, 2001* | 82.3 | 94.1 | 239 | 27 |
| Chen et al. *Chin Med J, 2003* | 83.3 | 86.1 | 60 | 28 |
| *IAEA group* | *28* | *92* | *149* | |

NA : Not available
* : SPECT

### The addition of P-SPECT

Madeddu and Spanu, using tetrofosmin, proposed recently SPECT with pinhole (P-SPECT) as the best technique to evaluate the axilla. Their group demonstrated that P-SPECT has better sensitivity compared to SPECT and they, individually, were superior to planar imaging, even for non palpable axillary lesions [33-35]. Their group previously reported also that tetrofosmin SPECT has better sensitivity than planar scintimammography for palpable and non palpable axillary lesions [36]. When P-SPECT was performed with sentinel node detection both techniques combined gave 100% accuracy and P-SPECT was able to identify 81.2% of cases with a single node, and correctly classified 93.7% of the patients with ≤ or > 3 metastatic nodes [37].

### Other interesting points

It has been reported that sestamibi and FDG are related with low radiopharmaceutical uptake in early forms of breast carcinoma that make tumoral detection more difficult in certain cancer subtypes, such as invasive lobular carcinoma and low-grade tumors, even with locally advanced disease [38-40]. It appears that favorable response to neoadjuvant therapy, in locally advanced disease is complex due to tumoral flow and metabolic changes [41].

Finally, it should be considered that in women with a clinically negative axilla the information obtained from surgical dissection in order to decide adjuvant therapy is related to age and other factors, such as tumor characteristics [42]. SPECT equipment capacity should be amelio-

rated in order to improve the detection of smaller lesions in breast carcinoma, as was published with phantom models [43]. The recent and excellent review by Taillefer (44) regarding scintimammography suggested that it is necessary to define the clinical niches of the test. In axilla, the diagnostic accuracy of sestamibi varied between 80–85% (with an overall accuracy of 81% (411/509) for 12 reports including two with SPECT); for him, this value is still too low to advocate its use to avoid axillary node dissection in patients with proven invasive primary breast cancer.

### Conclusion

There is strong information supporting that planar sestamibi data is not an adequate alternative for axillary evaluation in breast cancer. We believe that countries with limited resources regarding radiopharmaceuticals and equipment availability, should avoid the non-tomographic protocol.

### List of abbreviations

CI: Confidence Interval

LR: Likelihood Ratio

PET: Positron Emission Tomography

FDG: Fluorine deoxyglucose-F18

SPECT: Single Photon Emission Tomography

P-SPECT: SPECT with pinhole