

## Sentinel node biopsy in early breast cancer: lessons learned from more than 1000 cases at a single institution

Alessandro Fancellu<sup>1</sup>, Pierina Cottu<sup>1</sup>, Claudio F Feo<sup>1</sup>, Daniele Bertulu<sup>1</sup>, Giuliana Giuliani<sup>1</sup>, Silvia Mulas<sup>1</sup>, Valeria Sanna<sup>2</sup>, Silvia Mura<sup>3</sup>, Giuseppe Madeddu<sup>4</sup>, and Angela Spanu<sup>4</sup>

<sup>1</sup>Clinical Surgery Unit, University of Sassari; <sup>2</sup>Oncology Unit, ASL 1, Sassari; <sup>3</sup>Oncology Unit, and <sup>4</sup>Nuclear Medicine Unit, University of Sassari, Sassari, Italy

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### ABSTRACT

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**Aims.** The aims of this paper are to report the development of sentinel node biopsy (SNB) in breast cancer at a single institution and to discuss the relevant issues on SNB still to be elucidated.

**Patients and methods.** From 1998 to 2010, 1021 SNBs with frozen section examination were carried out in patients with breast cancer. In the early period (1998-2002) SNB was always combined with axillary lymph node dissection (ALND). From 2002 onwards, only patients with a positive SNB result underwent ALND (late period). The characteristics of patients with infiltrating carcinoma (IC) and ductal carcinoma *in situ* (DCIS) and the histological status of the sentinel nodes were examined. The survival outcomes of node-negative patients were compared between patients submitted to SNB and ALND (ALND group) during the early period and patients who underwent only SNB during the late period (SNB group).

**Results.** The sentinel node was identified intraoperatively in 98.3% of cases. During the early period the overall accuracy of SNB was 97.0%. During the late period, 700 patients with IC and 140 with DCIS underwent SNB. In the IC group, 149 patients (21.3%) had sentinel node macrometastases and 36 (5.1%) micrometastases; of that subgroup, 21 underwent ALND and no other metastatic lymph nodes were found, and 15 underwent SNB only. Axillary recurrences were observed in 4 patients (0.77%) with negative SNB; none of these were among the patients with micrometastatic SNB. Two patients (1.4%) with DCIS had a positive SNB. In node-negative patients the 5-year overall survival was 96.7% in the ALND group and 96.5% in the SNB group ( $P = 0.63$ ). The 5-year disease-free survival was 93.8% and 93.2% in the ALND and SNB groups, respectively ( $P = 0.77$ ).

**Conclusions.** Overall and disease-free survival in patients with a negative SNB result and no further axillary surgery were equal to those in patients with negative ALND. Intraoperative assessment of the sentinel node in expert hands has a low false-negative rate and allows immediate ALND in patients with sentinel node metastases, avoiding the need for a second operation. ALND for sentinel node micrometastases may be safely omitted in most patients with early stage breast cancer.

**Key words:** sentinel node, early breast cancer, axillary lymph node dissection, survival.

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Correspondence to: Dr Alessandro Fancellu, UO Clinica Chirurgica, University of Sassari, V.le San Pietro 43, 07100 Sassari, Italy.  
Tel +39-079-228432;  
fax +39-079-228394;  
email afancel@uniss.it

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