Aim: The long term safety of sentinel lymph node (SLN) biopsy during pregnancy is insufficiently explored, mainly due to fear for fetal safety. Studies have shown that fetal risk is minimal. We aimed to investigate maternal safety (efficacy and outcome).

Methods: Women diagnosed with breast cancer who underwent SLN biopsy during pregnancy were identified from prospective European databases. Chart review was performed to record technique and outcome of SLN biopsy, local and distant recurrence, and survival.

Results: We identified a total of 97 women (INCIP n = 83; GBG n = 14). Breast cancer diagnosis was made before pregnancy, in the first, second, and third trimester in 2, 34, 36 and 19 patients respectively (unknown n = 6). Median age at diagnosis was 35 years (range 28-45). All patients had clinically N0 disease (cT1-2: 95.9%; cT3-4: 4.1%). The SLN detection techniques were as follows: 99mTC albumin nanocolloid-only (n = 71; 73.2%), blue dye-only (n = 1; 1.0%), combined technique (n= 9; 9.3%), and unknown (n = 16; 16.5%). Mapping was unsuccessful in one patient, who had subsequent axillary lymph node dissection (ALND). Mean number of SLN’s was 2.2 (range 0-7). Positive SLN’s were found in 22 patients (6 micrometastases and 2 isolated tumor cells, of which 4 patients did not undergo ALND), 18 subsequent ALND’s were performed. The median follow-up was 35 months (range 1 to 148), and median disease free survival was 40.8 months. Eight patients experienced a loco-regional relapse: contralateral breast (n = 1; 1.0%), ipsilateral breast (n = 4; 4.1%), chest wall (n = 1; 1.0%), axilla (n = 2; 2.1%). Four (4.1%) patients developed distant metastases, of whom 3 (3.1%) died of breast cancer. Of the 2 patients who had an axillary recurrence, one patient refused all further adjuvant treatment after primary surgery, one patient had standard adjuvant treatment and ipsilateral axillary recurrence occurred 12 months after diagnosis.

Conclusions: SLN biopsy during pregnancy has a low axillary recurrence rate. This staging method can be considered during pregnancy instead of standard ALND for early stage, clinically node negative breast cancer.

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