

# The Use of Sentinel Lymph Node Dissection in the Treatment of Ductal Carcinoma in Situ of the Breast - a Danish Population-based Study.

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**Background:** The risk of axillary metastases in breast cancer patients with only ductal carcinoma in situ (DCIS) is low. Thus, axillary staging with sentinel lymph node dissection (SLND) must only be used where indicated to avoid over-treatment and unnecessary morbidity. The national guideline recommends the use of SLND in patients with DCIS lesions greater than 50mm, in patients with Van Nuys classification group III, in patients who need a mastectomy, in patients with palpable DCIS and in patients with DCIS in the upper lateral quadrant of the breast. In the present study the use of SLND in patients with DCIS was evaluated on a national basis and compared across departments in Denmark.

**Material and methods:** The Danish Breast Cancer Cooperative Group (DBCG) database was used to identify patients diagnosed with and treated for DCIS in Denmark between 2004 and 2015. Data on a total of 3.014 patients were identified. The use of SLND according to the year of diagnosis, age at diagnosis, size of lesion, Van Nuys classification and department of surgery was evaluated. The Chi Square test was used to test differences between the groups.

## **Results:**

In total, 54,3% of the included patients underwent SLND. The overall use of SLND in patients with DCIS increased during the period from 27,3% in 2004 to 66% in 2015. 2.303 (76,4%) of the included patients underwent lumpectomy and 547 (18,1%) underwent mastectomy of which 46,2% and 85,7% respectively, had a concomitant SLND. 164 (5,4%) patients underwent lumpectomy with a subsequent mastectomy within 30 days. A concomitant SLND was performed in 62,8% of these patients.

The use of SLND increased significantly with tumor size and increasing Van Nuys classification. Despite the recommendations, SLND was performed in 40,3% of 1466 (48,6%) patients offered lumpectomy with a lesion smaller than 50mm and with a Van Nuys classification group I or II.

The use of SLND in patients who had a lumpectomy differed significantly between departments ranging from 18,1% to 63,2% ( $p < 0.0001$ ). The use of SLND in patients who had a mastectomy ranged from 55,0% to 100% between the departments. A test for difference between departments in the use of SLND in patients who had a mastectomy was not possible due to the limited number of patients in this group.

## **Conclusion:**

The use of SLND in patients with DCIS varies among Danish departments of breast surgery. On average SLND was offered to nearly half of the patients who had a lumpectomy. The use of SLND in patients who had a mastectomy was higher, but far from 100% as recommended. Identification of risk factors for axillary metastases in breast cancer patients with DCIS and further standardization of the national guidelines are needed to optimize axillary surgical treatment and prevent the overuse of SLND in Danish breast cancer patients with DCIS.