

detected cases with micrometastases with tumours ≥ 10 mm, metastatic axillary nodes were found in 17/75 (23%).

In an independent cohort from Helsingborg hospital including 173 primary breast cancer patients, 14 of them had micrometastases in the sentinel node biopsy. Screening detected cancers constituted 8 of them, whereas 6 were clinically detected. None of the screening detected cancers had non-sentinel node metastases in the axilla in contrast to the clinically detected cases where 3/6 patients had metastatic non-sentinel nodes.

Conclusion: Despite the small number of cases with micrometastases in this large cohort of breast cancer patients, these results favour that completion axillary dissection can safely be avoided in screening detected breast cancer cases with micrometastases in sentinel nodes. The finding is not explained by smaller tumour size in screening detected patients.

103

Poster

Avoiding Frozen Sections of Sentinel Nodes in Breast Cancer Patients. Is it Possible by Using Preoperatively Known Characteristics of the Patient?

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Background: Avoiding frozen sections of sentinel nodes will save time in the operative theatre. Due to false negative frozen sections about 10% of women receiving sentinel node biopsy will need a second operation in the axilla after the definitive pathological report.

Purpose: To find a subgroup of women offered sentinel node biopsy where the risk of non-sentinel node metastases is 10% or less. Only preoperatively identified data was considered.

Material: All consecutive women offered sentinel node biopsy with frozen sections in combination with breast surgery at the Skåne University Hospital, Lund, during 2009–2010.

Methods: Sentinel nodes were classified into node negative (including patients harbouring isolated tumour cells), containing micrometastases measuring 0.2–2.0 mm or having macrometastases of more than 2.0 mm. Preoperative data was extracted from individual files: Age, screening status, BMI, results of cytology and/or needle core biopsy and tumour size on mammography and ultrasound.

Results: Sentinel node biopsy was offered to 477 women. Of these 419 (88%) had invasive carcinoma, 49 (10%) had ductal carcinoma in situ and 9 (2%) had benign conditions.

Age: Women of 75 years or more had metastases in 41% (33/81) and no low risk group could be found.

Screening: In the screening population 40–74 years 285 of 386 (74%) cases was screening detected and of these 80 (28%) had metastases in the sentinel node.

Preoperative diagnosis on biopsies: A preoperative diagnosis of ductal carcinoma in situ on needle core biopsy was found in 25 (5%) cases of which none had sentinel node metastases. Result of the fine needle aspiration or needle core biopsy was normal or with atypia in 31 (7%) women of which 2 (6%) had metastases in the sentinel nodes.

BMI: About half of the patients had BMI above 25 and metastases appeared with the same frequency irrespective of BMI.

Radiologic tumour size: Radiologic tumour size of 10 mm or less appeared in 173 patients. Two of 17 (12%) cases with radiologic tumour size of 5 mm or smaller had metastases and 43 of 156 (28%) cases with radiologic tumour size >5 mm and ≤ 10 mm. Of the 173 patients with radiologic tumour size of ≤ 10 mm, only 73 (42%) had a corresponding histopathological tumour size of ≤ 10 mm.

Conclusion: Frozen sections of sentinel nodes in breast surgery can only be safely avoided in 12% of the patients with either a diagnosis of benign, atypia or ductal carcinoma in situ on needle core biopsies or fine needle aspirations.

104

Poster

The Ultrasound Images of Ductal Carcinoma in Situ – Frequency of Non-mass Abnormalities

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Background: Although many believe that the usefulness of ultrasound is limited in ductal carcinoma in situ (DCIS), ultrasound has been found to be useful in some DCIS cases, and, recent ultrasound equipment provides better images. According to the ultrasound breast imaging guidelines of the Japan Association of Breast and Thyroid Sonology (JABTS), ultrasound

images of DCIS are classified into 'mass' and 'non-mass' abnormalities. Mass abnormalities are classified into two types: (1) solid tumors; and (2) intracystic tumors. Four types of non-mass abnormalities have been proposed after long deliberation: (1) hypoechoic areas within mammary glands; (2) abnormalities of the ducts; (3) clustered microcysts; and (4) architectural distortions. In order to evaluate and improve the JABTS guidelines, we studied the frequency of non-mass abnormalities observed by ultrasound in DCIS cases.

Material and Methods: Ultrasound reports of all DCIS surgery cases at Sizuoka Cancer Center during 2008 and 2009 were classified according to the JABTS ultrasound breast imaging guidelines.

Results: Among the 75 DCIS cases, 71 showed ultrasound findings. Non-mass and mass abnormalities were reported with 56% (40/71) and 40% (28/71) of the cases, respectively. Four percent (3/71) of the cases showed only hyperechoic spots, suggesting calcifications. With non-mass cases, hypoechoic areas were observed in 53% (38/71) of the patients, and abnormalities of the ducts were seen in 3% (2/71) of the cases. Neither clustered microcysts nor architectural distortions appeared in any of the 71 cases. Among mass cases, 26% (18/71) showed solid tumors, and intracystic tumors were found in 14% (10/71) of the patients.

Conclusions: The most common ultrasound finding with DCIS cases was the presence of non-mass hypoechoic areas (56% of DCIS cases). However, it is difficult to provide an appropriate term for vague hypoechoic areas in mammary glands. Among the four types of non-mass abnormalities suggested in the JABTS guidelines, clustered microcysts and architectural distortions were very rare compared to the other two types. To improve the ultrasound breast imaging guidelines for DCIS cases, further investigation is needed. We are planning a multi-institutional study in the near future.

105

Poster

Do We Need to Biopsy Young Women with Clinically and Radiologically Benign Breast Lumps?

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Background: Of all breast lumps in young women, very few are malignant. In women under 30 years breast cancer contributes to 0.39% of all cancers. Diagnostic assessment of patients with breast symptoms should be based on triple diagnostic method. However, some patients may not require all elements of triple assessment including those with clearly identified benign conditions with no other suspicious features identified clinically and radiologically. Women under 30 years undergo large number of fine needle aspiration (FNA) or core biopsy (CB) for benign breast disease. It is important to strike the correct balance between ensuring patient safety and optimising resource use.

Materials and Methods: Retrospective study of women under 30 years presenting with breast symptoms between December 2000 to January 2010, having a biopsy/ fine needle aspiration who had both ultrasonography and cytology data available at a University Teaching Hospital in Birmingham United Kingdom. The patient records were accessed on a computerised database. There clinic letters, imaging results and cytology were inspected manually.

Results: Total number of patients were 864. 612 had FNA and 252 CB. 544 met the requirement of having there imaging results in the database. There were 496 (U2), 39 (U3) and 9 (U3+) on ultrasonography. Of the 496 U2, 495 patients pathology was benign (B1/B2). All U3 patients pathology was confirmed as benign. All U3+ patients pathology confirmed cancer. The data table below gives a summary of all U3 (Uncertain ultrasonography) along with final pathology.

Overall there were 9 cases of U4/5 (Likely malignant) which all confirmed cancer on pathology. However there was 1 reported U2 which was reported as a C4(Cytology likely cancer).

Number	ClinicalDiagnosis	UltrasoundGrade	Biopsy grade
10	Benign mass	U3	B2
18	Fibroadenoma	U3	B2
1	Fibroadenoma	U3	Phylloides
2	Indeterminate	U3	B2
1	Indeterminate	Vascular mass	C2
2	Multiple lumps?benign	U3	B2
2	Nipple change	U3	B2
1	Mass increasing size	U3	B2
1	Thickened tissue	U3	C2
1	Silicone implant? lump	snow storm effect	silicone granuloma