

hospitals were grouped into eight regions and four volume groups. The decision whether or not to perform the SLNB was considered accurate if no SLNB was performed for pure DCIS, and SLNB performed for invasive breast cancer, as diagnosed at excision.

Results: The study comprised of 2892 DCIS, from 89 hospitals diagnosed in 2011/2012. First excision was breast conserving surgery (BCS) in 1821 cases (63%) and mastectomy in 1071 cases (37%). The SLNB was performed in 66%. The SLNB rate ranged from 25% to 100% between hospitals; for mastectomy 88% (range 40–100%), for BCS 53% (range 0–100%). In the BCS group, the rate was above average in 18 hospitals (20%) and below average in 15 hospitals (17%). In the mastectomy subgroup, 3 hospitals (3.4%) had a rate below the average. The SLNB rate was associated with the region range where the hospital was located (55%–72%) but not with hospital volume (range 64% to 68%). The accuracy was 45% (range 0–80%); 33% for mastectomy, 52% for BCS.

Conclusions: This study shows a large variation both in the decision whether or not to perform SLNB after biopsy diagnosis of DCIS and in the accuracy of that decision. The variation between hospitals was largest in the DCIS group that underwent BCS. This large variation is undesirable and including an earlier developed prediction model (Meurs et al. Br J Cancer 2018;119:1155–1162) in guideline recommendations would improve clinical decision making in whether or not to use the SLNB.

No conflict of interest.

142 Poster
Radioactive seed versus wire-guided localization for ductal carcinoma in situ of the breast: Comparable resection margins

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Background: There are currently two widely used methods for pre-operative localization of ductal carcinoma in situ (DCIS) of the breast: wire-guided localization (WGL) and radioactive seeds localization (RSL). WGL has historically been used as the gold standard for pre-operative localization of non-palpable lesions, but in recent years, RSL is regarded as an attractive alternative. Several studies compared these localization techniques in small cohorts. The aim of this study was to compare the surgical resection margin status between RSL and WGL in a large national cohort.

Patients and Methods: We included all patients in the Netherlands who underwent breast-conserving surgery for DCIS by either RSL (n = 1852) or WGL (n = 2190) between 2009 and 2019. Several clinicopathological characteristics were compared between these two groups, including the resection margin status and the number of re-excisions.

Results: RSL was associated with high grade DCIS (P < 0.001), presence of comedonecrosis (P < 0.001) and absence of microcalcification (P < 0.001) compared to WGL. There was no difference in resection margin status between both groups (P = 0.35) and the number of re-excisions (P = 0.435). With regard to RSL, single seed implantation was associated with older age (P = 0.013), smaller DCIS diameter (P < 0.001) and larger resection margin (P = 0.004).

Conclusion: In this large national cohort study, we demonstrated that a more aggressive DCIS phenotype is more often seen in patients localized with RSL compared to patients localized with WGL. However, there was no difference in the resection margin status between both procedures or in the number of re-excisions. The preferred localization method should therefore be based on other parameters than surgical outcome measures.

No conflict of interest.

143 Poster
Predicting lymph node metastases for biopsy diagnosis ductal carcinoma in situ: The DCIS-met model

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Background: Axillary staging is not necessary for patients with a ductal carcinoma in situ (DCIS), but it is offered to patients with a biopsy diagnosis

DCIS because 20% of these patients have occult invasive breast cancer at excision and therefore are at risk for metastasis. The aim of this study was to develop a prediction model for risk of lymph node metastasis in biopsy DCIS.

Material and Methods: The cohort was population based with patients that were diagnosed with DCIS based on a biopsy between 2011 and June 2012. Data were retrieved from the Dutch Pathology Registry and the Netherlands Cancer Registry. Multivariable logistic analysis resulted in a prediction model, which was internally validated using bootstrap replications. The area under the curve (AUC) of the receiver operating characteristic curve of the model was calculated and a calibration plot was drawn. The clinical benefit of using the model was analyzed with decision curve analysis.

Results: Of 2892 biopsy DCIS patients, 66% underwent Sentinel Lymph Node Biopsy (SLNB) before or at the first surgery, and eventually 71% underwent axillary staging by SLNB or axillary lymph node dissection. Metastases were found in 127 patients (4.4%). In multivariable analysis, risk factors were age, not detected by screening, a suspected invasive component at biopsy, a palpable tumor, a BI-RADS score 5, intermediate grade DCIS and high grade DCIS (see Table).

		OR	95% CI	p-value
Age	Linear	0.97	0.95 to 0.99	<0.001
	Detection mode			
Palpable	Screen-detected	1		
	Otherwise	1.55	1.01 to 2.38	0.047
BI-RADS score	No	1		
	Yes	2.06	1.34 to 3.18	0.001
	3	0.72	0.36 to 1.43	<0.001
DCIS histological grade at biopsy	4	1		0.346
	5	2.41	1.53 to 3.78	<0.001
	Low	1		0.028
Suspected invasion biopsy	Intermediate	3.01	1.27 to 7.15	0.012
	High	3.20	1.36 to 7.54	0.008
	No	1		
Intercept	Yes	1.86	1.01 to 3.41	0.045
	0.0535			

The AUC was 0.75 in internal validation. The calibration plot had a slope of 1.03 and an intercept of 0.09. The predicted risk was up to 40%, with a median of 2.8%. For 24% of the patients the risk was above 5%. In the decision curve analysis the net benefit of the model showed that the model is clinically useful between a predicted risk of 0% and 25%. In this dataset 99% of patients have a risk of at most 25%.

Conclusions: With the DCIS-met prediction model clinicians can easily calculate individual risks of lymph node metastasis based on information routinely available in clinical practice of patients preoperatively diagnosed with DCIS. This risk can be used in shared decision making in whether to perform a Sentinel Lymph Node Biopsy (SLNB) or not.

No conflict of interest.

144 Poster
Optimization of wire-guided technique with bracketing reduces resection volumes in breast-conserving surgery for early breast cancer

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Background: Wire-guided localization (WGL) of early breast cancer can be facilitated using multiple wires, which is called bracketing wire-guided localization (BWL). The primary aim of this study is to compare BWL and conventional WGL regarding minimization of resection volumes without compromising margin status. Secondly, BWL is evaluated as an alternative method for intra-operative ultrasound (US) guidance in poorly definable breast tumors on ultrasound.

Methods: In this retrospective cohort study, patients with preoperatively diagnosed breast cancer undergoing wide local excision between January 2016 and December 2018 were analyzed. Patients with multifocal disease or