PREDICTIVE FACTORS FOR ADDITIONAL NON-SENTINEL LYMPH NODES INVOLMENT IN BREAST CANCER, PATIENTS WITH ONE POSITIVE SENTINEL LYMPH NODE

ANALYSIS OF 292 PATIENTS TREATED AT THE UNIVERSITY OF FLORENCE

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Aim of the study

Identify a subgroup of BC patients in whom is possible to avoid axillary lymph node dissection (ALND) when sentinel lymph node (SLN) is positive

Materials and Methods

- (1999- 2006) Total 292 patients affected by invasive BC
- Breast-conserving surgery *(quadrantectomy/wide local excision)* or mastectomy and SLN biopsy positive
- All patients underwent subsequent ALND

Materials and Methods

Characteristics	N (%)
Mean age (± SD)	55.6 (± 11.2)
Pathological T stage	
pT1a-b	50 (17.1)
pT1c	165 (56.5)
pT2	77 (26.4)
Multiple foci	
No	234 (80.1)
Yes	58 (19.9)
Nuclear grade	
G1	69 (24.6)
G2	139 (49.4)
G3	73 (26.0)
Hystological type	
Ductal invasive	149 (51.0)
Ductal and lobular invasive	37 (12.7)
Lobular invasive	52 (17,8)
Other tupes	54 (18.5)

Materials and Methods

Characteristics	N (%)
Ki-67 index5	
< 20 %	174 (66.4)
≥ 20%	88 (33.6)
Estrogen receptors	
Negative	23 (8.6)
10-50 %	27 (10.2)
≥ 50%	216 (81.2)
Progesterone receptors	
Negative	49 (20.9)
10-50 %	44 (18.8)
> 50 %	141 (60.3)
Her 2 status	
Negative	142(48.6)
Positive (score 3+)	76 (26.0)
Undetermined (score 2+)	74 (25.4)

Results

No. of positive axillary lymph nodes	Sentinel lymph node micrometastases n (%)	Sentinel lymph node macrometastases n (%)	Total n (%)
Only sentinel lymph node	127 (94.8)	102 (64.6)	229 (78.4)
Additional positive lymph node	7 (5.2)	56 (35.4)	63 (21.6)
Total	**134**	**158**	**292**

ADDITIONAL LYMPH NODES METASTASES

56/158 with macro in SLN

7/134 with micro in SLN

p=0,0001

Results

Age	pT	Multiple foci	Multicentric	Nuclear Grade	Histologic type	ER	PgR	HER2	Ki-67
55	1c	No	No	G3	Ductal	++	-	NA	≥20%
46	1c							-	≥20%
34	1c							NA	<20%
57	1c	No	No	G2	Lobular	++	++	-	<20%
68	1c	No	No	G3	Ductal	++	++	+	≥20%
52	1c	No	No	G3	Ductal	++	NA	+	≥20%
78	1c	Yes	No	G2	Lobular	++	++	-	<20%

100% > 1 cm
100% G2-G3
57,1% High Ki-67

Results

Features	No. Positive axillary lymph nodes n (%)		
	1	> 1	P-value
Pathological T stage			
pT1a-b	15 (14.7)	4 (7.1)	
pT1c	61 (59.8)	23 (41.1)	
pT2	26 (25.5)	29 (51.8	**0.004**
Multiple foci			
No	81 (79.4)	41(73,2)	
Yes	21 (20.6)	15 (26.8)	0.43
Nuclear grade			
G1	28 (27.4)	10 (17.9)	
G2	41 (40.2)	32 (57.1)	
G3	25 (32.4)	14 (25)	0.19
Hystological type			
Ductal invasive	50 (49)	27 (48.2)	
Ductal and lobular invasive	14 (13.7)	10 (17.9)	
Lobular invasive	21 (20,6)	14 (25)	
Other tupes	17 (18.7)	5 (8.9)	
Ki-67 index			
< 20 %	65 (63.7)	31 (55.3)	
≥ 20%	29 (28.4)	19 (33.9)	0.46
Estrogen receptors			
Negative	12 (11.8)	7 (12.5)	
10-50 %	12 (11.8)	6 (10.7)	
≥ 50%	71 (69.6)	41 (73.2)	0.99
Progesterone receptors			
Negative	18 (17.6)	9 (16.1)	
10-50 %	12 (11.8)	10 (17.9)	
> 50 %	51 (50)	26 (46.4)	0.58

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EDITORIAL

Multidisciplinary Considerations in the Implementation of the Findings from the American College of Surgeons Oncology Group (ACOSOG) Z0011 Study: A Practice-Changing Trial

Axillary dissection versus no axillary dissection in patients with sentinel-node micrometastases (IBCSG 23–01): a phase 3 randomised controlled trial

Lancet Oncol 2013; 14: 297–305

Original Study

An Independent Assessment of the 7 Nomograms for Predicting the Probability of Additional Axillary Nodal Metastases After Positive Sentinel Lymph Node Biopsy in a Cohort of British Patients With Breast Cancer

Clinical Breast Cancer August 2014

Nomograms

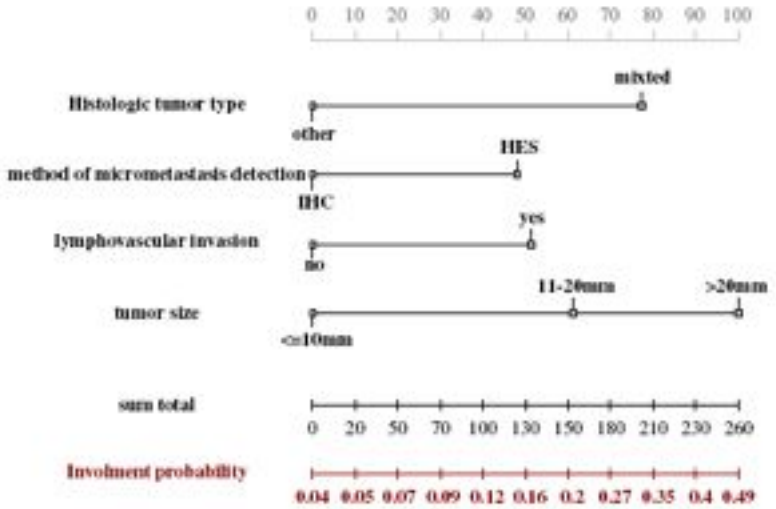

Figure 1. Specific nomogram predictive of the NSN involvement rate in a case of SN micrometastasis. HES, haematoxylin and eosin staining; IHC, immunohistochemical analysis; LVI, lymphovascular invasion; Other, not mixed.

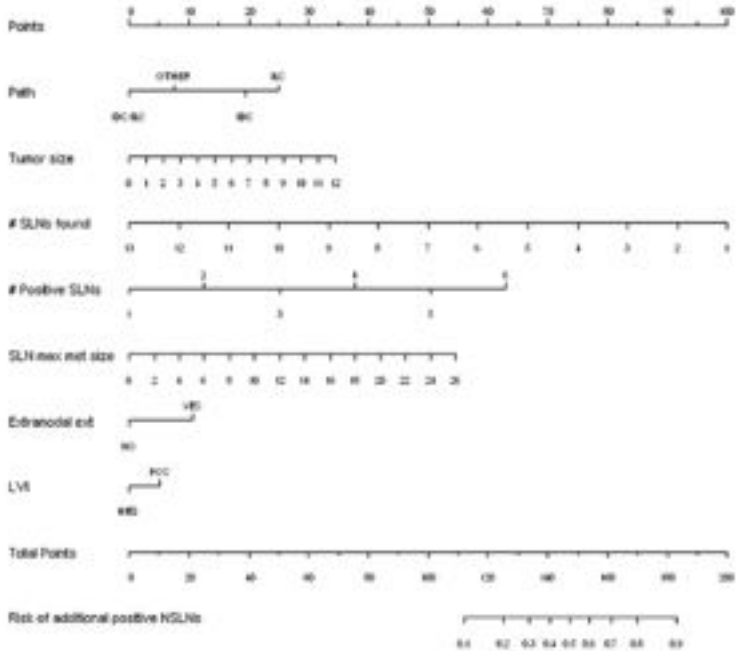

FIGURE 1. Nomogram to predict likelihood of additional, nonsentinel lymph node (non-SLN) metastases in a patient with a positive SLN. The first row (Points) is the point assignment for each variable. Rows 2 to 8 contain the variables included in the model. For an individual patient, each variable is assigned a point value based on the characteristic. A vertical line is made between the appropriate variable value and the Points line. The assigned points for the 7 variables are summed and the total is found in row 9 (Total Points). Once the total points value is determined, a vertical line is made between row 9 and row 10 to determine the risk of additional positive non-SLNs. SLN maximum metastasis (max met) size is measured in millimeters.

Conclusions

- In our series only pT was significantly related to find additional metastasis upon completation ALND

- No patients with micrometastasis in SLN and cancer smaller than 10 mm had additional positive non- SLNs

- Axillary relapse in patients with minimal or small volume disease in SLNs is a very uncommon event

- ALND can be omitted in low recurrence risk group of patients , without the need for an additional treatment on the axillary region

Thanks for your attention