

Risk after local excision alone for DCIS patients.

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Background: The DCIS Score (DS) was validated as a predictor of ipsilateral breast recurrence (IBR; DCIS or invasive) in E5194 pts tx by breast-conserving surgery (BCS) w/o RT. The Ontario population-based study of 3,320 pts w/ DCIS from 1994 to 2003 (Rakovitch, 2013) tested the DS as a predictor of IBR risk in a broader, more contemporary population of pts tx w/ BCS alone - w/ & w/o clear margins (CM).

Methods: DS was obtained per E5194. The pre-specified 1^o objective was to determine the relationship (HR/50 units) between the risk of an IBR and the continuous DS (using Cox models) in pts tx w/ BCS alone w/ ER+ DCIS and CM (no ink on tumor). The association between the continuous DS in all pts with BCS alone w/ & w/o CM was explored.

Results: 1,751 pt blocks were collected; 718 had BCS alone (571 w/ CM). Median f/u was 9.4 yrs. Among 718 pts w/ BCS alone, 136 had an IBR (DCIS, N=57; invasive, N=80). Among 571 pts w/ CM, 100 had IBR (DCIS, N=44; invasive, N=57). In the 1^o analysis, among pts tx by BCS alone w/ CM the continuous DS was significantly associated with IBR in ER+ pts (HR 2.26; 95%CI 1.41,3.59; P=0.001) and in all pts (HR 2.15; 95%CI 1.43,3.22; P=<0.001). DS was associated w/ invasive IBR (HR 1.78; 95%CI 1.03,3.05; P=0.04). In multivariable analysis for IBR, the HR/50 units for the DS among pts tx w/BCS alone w/ CM was 1.68 (95%CI 1.08,2.62; P=0.022) adjusting for multifocality, tumor size, subtype, and age. Among all 718 pts tx by BCS alone w/ and w/o CM, the DS was associated w/ IBR, and the HR/50 units for the DS was 2.04 (95%CI 1.39,2.98; P=<0.001) adjusting for multifocality, size, subtype, and age.

Conclusions: The DS quantifies IBR risk for DCIS pts tx by BCS w/ or w/o CM. Integrating the DS with established risk factors can more accurately identify DCIS pts tx with BCS alone with low (<10%) or high (>25%) 10yr average IBR risk.

10 yr KM IBR rate (95%CI).

DS Risk Group	CM		CM & unifocal DCIS		All pts regardless of margin status		Positive or uncertain margins	
	N		N		N		N	
Low (<39)	355	12.7% (9.5%, 16.9%)	298	9.7% (6.8%, 13.8%)	450	13.6% (10.6%, 17.3%)	95	16.8% (10.4%, 26.3%)
Int (39-54)	95	33.0% (23.6%, 44.8%)	72	27.1% (17.7%, 40.2%)	118	32.4% (24.0%, 42.8%)	23	29.5% (14.4%, 54.4%)
High (≥55)	121	27.8% (20.0%, 37.8%)	87	27.0% (18.2%, 38.9%)	150	31.6% (24.2%, 40.6%)	29	47.8% (30.4%, 68.8%)

10 yr KM IBR rate (95%CI).

		CM	CM & unifocal DCIS	All pts regardless of margin status	Positive or uncertain margins			
DS Risk Group	N		N	N	N			
Log rank P-value	571	<0.001	457	<0.001	718	<0.001	147	0.004
