External Validation of the 2019 Briganti Nomogram for the Identification of Prostate Cancer Patients Who Should Be Considered for an Extended Pelvic Lymph Node Dissection

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Materials and Methods

- We aimed at validating the 2019 Briganti nomogram to identify candidates for an extended pelvic lymph node dissection (ePLND) in a contemporary cohort of patients diagnosed with MRI-targeted biopsy

- 487 patients diagnosed using MRI-targeted with concomitant systematic biopsy who received radical prostatectomy (RP) and ePLND at seven European tertiary referral centers were identified

- The ROC-derived operating characteristic curve (AUC), calibration plots, and decision curve analysis (DCA) were used to externally validate the 2019 Briganti nomogram

- We then compared the performances of the 2019 Briganti nomogram with available models developed in men diagnosed with systematic biopsy such as the MSKCC risk calculator, the 2012 and 2017 Briganti nomograms

VARIABLES	OVERALL (n=487)
Age at diagnosis	65 (60; 69)
PSA at diagnosis (ng/mL)	7,6 (5.5; 10.8)
Number of lesions	1 (1; 2)
Max PIRADS of the index lesion	
3	27 (5%)
4	268 (56%)
5	185 (39%)
Max diameter of the index lesion, mm	11 (8; 16)
Number of biopsy cores	14 (13; 15)
Extracapsular extension on mpMRI	79 (16%)
Seminal vesicle invasion on mpMRI	20 (4%)
Grade Group on targeted Biopsy	
1	72 (14%)
2	221 (45%)
3	124 (25%)
4	52 (11%)
5	18 (4%)
GG in systematic Biopsy	
Negative	49 (10%)
1	70 (14%)
2	234 (48%)
3	69 (14%)
4	47 (10%)
5	18 (4%)
Pathologic T stage	
2	266 (55%)
3a	160 (33%)
3b/4	61 (13%)
Lymph node invasion on final pathology	38 (8%)
Number of nodes removed	18.0 (14.0-24.0)

Results

Discrimination

Model	AUC
MSKCC	74%
Briganti 2012	75%
Briganti 2017	65%
Briganti 2019	79%

Calibration
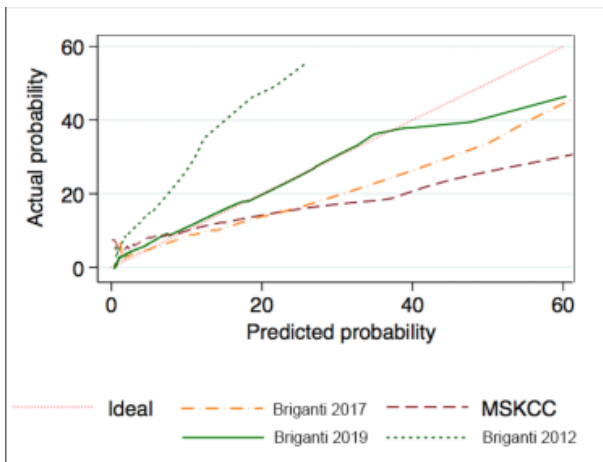
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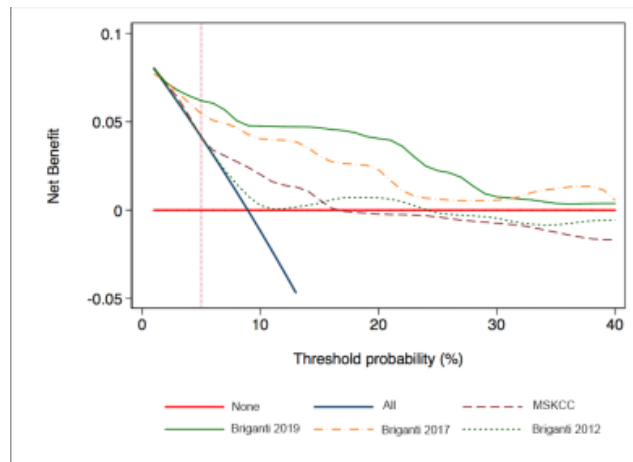
We performed the first external validation of the 2019 Briganti nomogram predicting LNI in PCa patients diagnosed with MRI-targeted biopsy. The model showed excellent performance characteristics and highest AUC as well as better calibration and higher net-benefit compared to available tools. The Briganti 2019 nomogram should be adopted to identify candidates for ePLND among men diagnosed with MRI-targeted biopsy.