External Validation of a Preoperative Nomogram in Predicting PSA Recurrence after Radical Prostatectomy

Introduction and Objective: Among various nomograms, a nomogram to predict prognosis after the treatments is most important but the validation is mandatory to use at actual clinic. Therefore, we validated the 2 preoperative nomograms to predict PSA recurrence after radical prostatectomy using our cohort.
Metarials and Methods: A total of 647 patients treated with radical prostatectomy for clinically localized prostate cancer at Tokyo Medical University hospital were included in the analysis. Men with neoadjuvant treatments were excluded from this study. The preoperative nomogram developed by Kattan et al. and Stephenson et al. was used to calculate the probability that a patient would be free from PSA recurrence at 5-year follow-up. The five variables included in the nomograms were preoperative PSA level, biopsy Gleason score, TNM clinical stage, number of positive and negative biopsy cores (Stephenson nomogram).
Result: Overall, PSA non-recurrence rate at 5-year was 72±4% with a mean follow-up of 44.7 months (1-144). The concordance index for Kattan nomogram was 0.68 that was similar to 0.67 for Stephenson nomogram. Therefore, the inclusion of the number of biopsy cores did not enhance the predictive accuracy of the model. Calibrations for both nomograms appeared to be good.
Conclusion: While the previous nomograms seem to be reasonable to use at an actual clinic, it would be ideal to develop a new nomogram that would fit with our cohort.