WEB TOOL PREDICTS REPEAT BIOPSY RESULT

A UK group has developed a nomogram that accurately indicates the likelihood of prostate cancer being detected on a second biopsy.

Adapting the multivariable approach of Kattan, Mark Rochester and colleagues used stepwise logistic regression to test the predictive potential of nine clinical parameters. Data from 87 men were extracted from a database. Prostate cancer was detected on repeat biopsy (minimum of 10 cores) in just over 30% of the cohort.

The optimal model that emerged—which includes age, result of digital rectal examination, history of high-grade prostatic intraepithelial neoplasia, prostate volume, PSA level, ratio of free-to-total PSA, and PSA velocity—performed well in an independent patient sample. It accurately differentiated men with positive from those with negative second biopsies (AUC=0.82).

The authors acknowledge that nomograms have not been widely incorporated into clinical practice. To facilitate uptake, they have formatted their risk-prediction tool for web-based usage. This accessible, easy-to-use program (available at www.ck-net.com/clients/camurology) could help to reduce the number of unnecessary biopsies and, therefore, cut costs considerably.

If repeat biopsy in the UK were triggered by a Rochester risk score exceeding 0.2, the number of biopsies would drop by almost 40%, while the majority of cancers (90%) would still be detected. Approximately €1.25 million would be saved.

External validation of this new model will be required. Further study could also broaden its applicability. Currently formulated for men presenting with symptoms, or as a result of opportunistic screening, extending its use to the more-general screening population would maximize its utility.

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Original article Rochester, M. A. *et al.* Development and validation of risk score for predicting positive repeat prostate biopsy in patients with a previous negative biopsy in a UK population. *BMC Urol.* 9, 7 (2009).