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**Introduction & Objectives:** Multiparametric MRI (mpMRI) of the prostate and targeted biopsy of suspicious lesions has improved the detection of clinically significant prostate cancer (PCa) while reducing the number of biopsies and detection of insignificant PCa, and so has been recently introduced as a recommendation in biopsy naïve patients in European Association of Urology guidelines. While demonstrating a low number of false negatives, we may still be performing too many biopsies based solely on mpMRI findings. Risk-based patient selection could help to selectively identify men with significant PCa prior to biopsy and thus reduce unnecessary mpMRI. We aimed to compare PCa detection rates for mpMRI-targeted biopsy with a patient selection strategy using Rotterdam Prostate Cancer Risk Calculator (RPCRC).

**Materials & Methods:** We performed a retrospective review of all men submitted to prostate biopsy who had a prior mpMRI, between June 2017 and June 2018 in our center. 139 consecutive patients underwent mpMRI scanning with subsequent biopsy targeted to the suspicious lesion in case of a positive report (Pi-RADS  $\geq 3$ ). Subsequently we performed a risk stratification according to RPCRC advice (risk of any PCa  $\geq 20\%$  and/or risk of clinically significant PCa  $>4\%$ ).

**Results:** mpMRI yielded a detection rate of PCa of 71%, 61% for clinically significant (69 in 113 men) and 10% low-grade cancer (11 in 113 men). 5 out of 47 men (11%) with negative RPCRC advice and 69 out of 92 (75%) men with positive advice had clinically significant cancer. Upfront RPCRC-based patient selection for mpMRI and biopsy would have avoided 33 mpMRI scans (24%), missing only 5 out of 69 (7%) clinically significant PCa.

**Conclusions:** mpMRI demonstrated a high detection rate of clinically significant cancer, however at the expense of a high false positive rate. In this setting RPCRC had a higher accuracy rate, with a low rate of clinically significant PCa missed. Besides this risk assessment can be avoided up to one-quarter of mpMRI scans and prostate biopsies in biopsy naïve patients.