119 (98.3%). 12 (9.9%) patients were identified only by random biopsy cores.
Micro-US imaging provided high sensitivity, with 86.8% csPCa patients (105/121) having at least one PRI-MUS score ≥3 lesion. NPV was 72.4%, with 42/58 patients without target lesions receiving a benign or GS6 diagnosis. Conversely, PPV and specificity were lower (48.8% and 27.6%).
Conclusions: Micro-US may represent a valid tool in the initial diagnostic workup of patients suspected for PCa thanks to its high sensitivity and NPV as imaging test, as well as its ability to implement systematic biopsies with real-time identification and targeting of suspicious lesions. Randomised comparative trials with mpMRI are needed.

SC31 Metabolic syndRoma evaluation improves prostate cancer detection in patients undergoing a repeat biopsy

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Introduction: Aim of our study was to evaluate Metabolic syndRoma (MetS) as a risk factor for Prostate cancer (PC) in patients undergoing repeat trans-rectal prostate biopsy (PB).
Materials and methods: Between May 2010 and October 2018 a prospective cohort study was carried out by enrolling patients who underwent repeat biopsy for persistence of clinical suspicion of PC: PSA≥4 ng/ml, suspect digital rectal examination findings, more than three biopsy cores with High Grade Prostatic Intraepithelial Neoplasia (wHGPIN). PSA≥20 ng/ml was the main exclusion criteria. PB was performed six months after the first one. A 12–14 core prostate biopsy template was used in both biopsies. MetS was defined according to the Adult Treatment Panel III criteria. A binary logistic model was computed to assess risk factors of PC on re-biopsy. A nomogram was generated to predict PC. Accuracy was evaluated using the L-ROC.
Results: Overall 309 patients aged 67.6±7.7 years were enrolled. Mean BMI was 27.5±3.4, mean prostate volume was 53.7±24.8cc. An initial diagnosis of chronic prostatitis, ASAP and HGPINwere respectively reported in 231 (74.8%), 9 (2.9%) and 69 (22.3%) patients, while 141 (37.0%) patients had a diagnosis of MS. Repeat biopsy diagnosed 96 (31.1%) cancers, 3 (1%) ASAP, 62 (20.1%) HGPIN, 142 (46.0%) benign lesions. Among cancers, 71 (74%) were Gleason Score (GS) = 6 and 25 (26%) GS≥7. No significative difference was found regarding median PSA on initial and repeat biopsy, 6.9 ng/ml IQR 5.2–8.2 Vs 6.6 ng/ml IQR 4.3–11.2, p > 0.05. On univariate analysis, MS (OR 1.6 CI 1.03–2.78, p = 0.03), AGE (OR 1.05 CI 1.01–1.08, p = 0.003) and HGPIN (OR 3 CI 1.7–5.2, p = 0.01) were the only independently risk factors of PC on repeat while PSA (0.9 0.82–0.98 p = 0.21)and PSA density (OR 0.15 0.1–1.82 p = 0.13) were not. MS diagnosis was the only risk factor able to predict aGS ≥7cancer: OR 3 CI 1.17–8.07 p = 0.02. On multivariate analysis the model including age, MS and HGPIN was able to predict GS ≥7 (LROC 0.82) with a net benefit in the range of probability between 10% an 45%.
Conclusions: In our patients MetS was an independent predictor of PC and especially for high grade PC, confirming the importance of evaluating metabolic factors in patients at risk for prostate cancer. Our model, if validated could be used to reduce the number of unnecessary biopsy in patients with a previous negative biopsy.

SC32 Rotterdam mobile phone appincluding MRI data for the prediction of prostate cancer: A multicenter external validation

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Introduction: The Rotterdam Prostate Cancer Risk calculator (RPCRC, available as mobile phone app) has been extensively validated in the past years. Recentlya new version including MRI data has been released. The aim of our study was to analyze the performance of the MRI RPCRC app in a multicenter cohort of patients undergoing prostate biopsies.
Materials and methods: A consecutive series of men undergoing prostate biopsies were enrolled in elevenItalian centers. Indications for prostate biopsy included abnormal Prostate specific antigen levels (PSA>4 ng/ml) and/or abnormal DRE and/or abnormal MRI. Demographic and clinical characteristics of the patients were recorded. Prostate cancer (PCa) risk and high-grade PCa risk were assessed using the RPCRC app (iOS). The RC within this App includes the following variables: age, PSA, previous prostate biopsies, DRE, PIRADS score and prostate volume. The performance of the MRI RPCRCin the prediction of cancer and high-grade PCar (Gleason >6) was evaluated using receiver operator characteristics, calibration plots and decision curve analysis.
Results: Overall 580 patients with amedian age of 66 (61/70) years were enrolled. Median PSA was 6 (4/8) ng/mland median prostate volume was 47 (39/61) ml. Moreover 178/580 (31%) had previous biopsies. MRI showed the following PIRADS scores: 26 (5%) PIRADS 1, 2 (0,9%) PIRADS 2, 196 (34%) PIRADS 3, 263 (45%) PIRADS 4 and 93 (16%) PIRADS 5. Overall 404/580 (70%) presented PCaand out of them 224/404 (55%) presented high-grade PCa. In the prediction of cancer,the RC presented good discrimination (AUC = 0,74), poor calibration (p = 0,01) and a clinical net benefit in the range of probabilities between 50 and 90% for the prediction of PCa. In the prediction of high-grade PCa, the RC presented good discrimination (AUC = 0,79), good calibration (p = 0,48) and a clinical net benefit in the range of probabilities between 20 and 80%.
Conclusions: Despite the high a priori risk (70% had PCa, resulting in miscalibration in overall PCa risk) the user friendly RPCRC Appstill had added value in predicting high-grade PCa. Future studies evaluating the clinical impact of the mobile phone app in clinical practice are warranted and setting specific calibration might be indicated and is feasible.

SC33 The use of 29 MHZ transrectal micro ultrasound to stratify the presence of prostate cancer in patients with an equivocal mpMRI: A single institutional analysis

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Introduction: The reduction of unnecessary prostate biopsies is an important clinical goal in order to minimize patient stress and to reduce the risk of infection or overtreatment. The aim of the current study was to assess whether micro-ultrasound (mUS) can help to provide a sub-stratification of patients with an indeterminate (PIRADS 3) lesion at multiparametric MRI (mpMRI).