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TRIAGE FOR THE NAÏVE BIOPSY PATIENTS WITH PHI (PROSTATE HEALTH INDEX) SCORE AND MULTIPARAMETRIC MRI

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Objective. We need to identified only the significant Prostate cancer. PSA is not enough sensible to rule out latent PC. Pro2PSA and PHI (prostate health index) can help us in the diagnosis but also here there is a grey zone (1-4). To-day Multi-parametric MRI (mp-MRI) may have a role in ruling-out clinically significant prostate cancer (5-8). We decided to offer to the patients with PSA between 4 and 10 ng/ml the test of PHI and who had PHI under 40 were evaluated with mpMRI.

Materials and Methods. 185 consecutive men between January and December 2015 with a mean age 67 years (range 40 to 76y) and mean PSA 6.2ug/L (range 4.1 to 10) were evaluated. After PHI the Mp-MRI (T1/T2, dynamic contrast enhancement and diffusion weighting, 1.5 Tesla, pelvic phased array) was performed each mp-MRI was reported with knowledge of PSA and patient age, by two uro-radiologists expert in prostate MRI. Each prostate was divided into 4 regions of interest (ROI) and a score of 1 to 5 assigned to each ROI (PIRADS 2 score: 1 - no cancer, 5 - highly suspicious.

120 patients which a negative mpMRI entered in a follow-up program. 65 underwent a TRUS fusion guided biopsy for suspicious lesions (12 mapping and target lesion sample and 4 only in the target lesion).

Results. In the 65 mpMRI lesion we found 49 tumors (36 Gleason 7 and 13 Gleason 8) at biopsy. The other enter in follow up (no PSA event in 18 months). Between the 120 pts with normal mpMRI 110 had PSA and DRE stable at more than 18 months, but in 10 the PSAv went up and we performed TRUS biopsy. In 6 of 10 a significant Gleason 6 cancer were found.

Discussions. The data obtained in our study are comparable to others published in the literature; PHI appears to be the best marker for prostate cancer screening to date followed by %p2PSA.

The study has shown that phi outperforms tPSA and fPSA, when used alone or in combination, and appears to be more accurate than both markers in excluding prostate cancer before biopsy. Therefore, it helps clinicians to avoid unnecessary biopsies, particularly in patients with gray-zone tPSA level. PHI is the strongest marker that correlates proportionally with GS; making it useful in predicting the aggressiveness of the disease (1-4). Our experience suggests that mp-MRI may have a role in ruling-out clinically significant prostate cancer, sparing a considerable number of invasive prostate biopsy. This finding also can be used to address the over-diagnosis burden from PSA screening by using mp-MRI as a triage test to identify men who can avoid a prostate biopsy (5-8). A prospective study of MRI and MRI guided biopsy (not ultrasound fusion) demonstrated improved cancer detection in biopsy-naïve men (9). Cost estimates for the addition of MRI to the initial diagnostic algorithm of prostate cancer have ranged widely and often more closely reflect local market forces than actual resource utilization (8, 10, 11).

Conclusion. In this setting, mpMRI can help to manage low risk patients, PSA < 10 and PHI > 40, The high negative predictive value for clinically

significant cancer as defined suggests that mp-MRI may have a role in ruling-out clinically significant prostate cancer. This finding could be used to address the over-diagnosis burden from PSA screening by using mp-MRI as a triage test to identify men who could avoid a prostate biopsy.

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