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ACCURACY OF MULTIPARAMETRIC MAGNETIC RESONANCE IMAGING USING 1.5 TESLA AND ULTRASOUND – GUIDED TRANSRECTAL COGNITIVE APPROACH

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Introduction & Objectives: Multiparametric prostate magnetic resonance imaging (MP-MRI) helps to target biopsies. It has been shown to improve sensitivity and specificity compare with ramdom biopsies. However, data suggests that biopsies accuracy varies depending on the approach used (trasperineal versus transrectal) as well as whether a 1.5 versus a 3 Tesla MRI is used. Our objetive was to analize the accuracy of a 1.5 T MP-MRI followed by transrectal cognitive approach.

Methods: Data from a cohort of men who underwent MP-MRI and cognitve transrectal biopsies plus ramdom biopsies between Jannuary 2013 and September 2015 at the Hospital Aleman of Buenos Aires were reviewed. MP-MRI images were obtained using a Phillips 1.5 T. Images were reviewed by a single physician with more tan 10 years of expererience in prostatic MRI. Pirads 1 classification was followed and a cut off value of 13 was used to differentiate between suspicious and non-suspicious lessions. Six cores biopsies were obtained at the target zone. The rest of the prostate was devided in 6 zones; base, mid and apex on the both right and left sides. Three cores biopsies were taken in each zone (2 peripherals and 1 in the transition zone). A Siemens SonoLine Prima ultrasound was used to perform the biopsies. All of them were obtained by a urologist with more than 10 years of experience in prostate biopsies. These were outpatient procedures, performed under sedation, and in lithotomy position. Biopsies were informed by 2 expert prostate cancer pathologists, each with more than 10 years of experience. Sensitivity, specificity, as well as positive and negative predictive values were determined.

Results: Data from 118 patients was analized. Mediam age was 63,8 years. Average prostatic specific antigen (PSA) was 8,09 ng%. Based on a cut off value of 13, 69 (58,4%) out of 118 patients had suspicious lesions in MR images. All 118 patients underwent biopsies. Biopsies of the MP-MRI abnormal area correlated with abnormal pathology results in 72% of patients. Of these patients, 41,9 % had high grade disease on pathology (Gleason 7 or higher). Overall, multiparametric prostate magnetic resonance images obtained with a 1.5 T MR had a sensitivity of 89% and a specificity of 36%. Positive predictive value was 66% and negative predictive value was 72%.

Conclusions: In our serie of 118 consecutive patients, target biopsies using 1.5 T MP-MRI and ultrasound-guided transrectal cognitive biopsies had a high accuracy to find prostate cáncer.