Introduction & Objectives: Brachytherapy for the treatment of prostate cancer is a well-established alternative. The appearance of Magnetic Resonance imaging (MRI) for staging and diagnosis of prostate cancer (PCa) has come to change the current paradigm. The authors of this study aim to assess the impact of performing MRI before treatment in patients with prostate cancer in concerns of biochemical recurrence and time to nadir, as well as compare the efficacy of brachytherapy in patients with ISUP 1 and ISUP 2 PCa.

Materials & Methods: Review of clinical data from 73 patients with prostate cancer submitted to brachytherapy. The following factors were evaluated: age, initial PSA, ISUP, MRI, nadir, time to nadir, PSA at one-year, biochemical recurrence, time to recurrence. Statistical analysis with SPSS 20®.

Results: In this study median age was 68 (51-72) and median follow-up of 53 months (30-72). Concerning imaging modality 30.1% (n=22) patients performed MRI. In the MRI group 90.9% (n=20) had at least one suspect lesion on MRI. Median time to nadir of 27 months (3-64) in patients where MRI was not performed and 23.5 months (2-48) in patients submitted to MRI (p=0.244). The median value of nadir was 0.42 (<0.001 – 2) in patients submitted to MRI and vs 0.28 (<0.001 – 4) in patients without MRI (p=0.062). Recurrence was 4.5% (n=1) in patients with MRI and 9.2% (n=5) without previous MRI (p=0.456), in a median follow-up of 53 months. Comparing ISUP 1 49.3% (n=36) and 50.7% (n=37) patients they presented with a recurrence rate of 8.3% and 8.1% respectively (p=0.972). A median time to nadir of 26.0 months (6-56) vs. 24.0 months (12-74) (p=0.475) and median values of nadir of 0.43 (<0.001 – 3.55) and 0.21 (<0.001-1.42) (p=0597) in patients with ISUP 1 and 2 respectively. Both groups were statistically similar.

Conclusions: Our results allow us to conclude that MRI does not influence biochemical recurrence, time to nadir or nadir value and that ISUP score also does not influence these values, meaning that brachytherapy might be safe in higher ISUP. One limitation of this study is not considering the percentage of positive cores detected during biopsy.