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STEREOTACTIC PROTON RADIOTHERAPY FOR LOW- AND INTERMEDIATE-RISK PROSTATE CANCER - ONGOING EVALUATION OF RESULTS

Hypothesis / aims of study
Evaluation of the dosimetric data, acute toxicity and interim results.

Study design, materials and methods
Between February 2013 and May 2015 were treated 100 patients with prostate cancer, low or medium risk IMPT (proton intensity modulated radiotherapy), stereotactic mode (36.25 Gy in 5 fractions). The mean age was 64.2 years, the average pre-treatment PSA was 5.6 ng / ml (median 5.2 g / l). 52 patients (52%) were in the low risk group, 48 patients (48%) fell within the intermediate-risk group, 17 patients (17%) had neoadjuvant hormonal therapy, and the patient had no adjuvant hormonal therapy

Results
All patients completed treatment without interruption. The median follow up of 24.1 months. Dosimetric parameters are shown in Table 1. The mean treatment duration was 9.3 days (median 9 days). Dosimetric parameters were as follows (average values): Size PTV = 107.85 cm3; Conformity index = 1.01; PTV = 98% of 35.58 Gy; Rectum Dmean = 10.95 Gy; Rectum cm3 D20 = 8.33 Gy; Bladder Dmean = 6.95 Gy; Bladder wall cm3 D15 13.75 Gy; Bulbus penis 3 cm3 = 6.85 (GYE; sin femur. D10 cm3 15.84 Gy; dx femur. D10 = 15.76 cm 3 Gy. Acute toxicity (CTCAE -v. 4) was GI (gastrointestinal) G1-15 , 38%, G2-1,92% GU (genitourinary) G1-48,08% G2-15,38% in low risk and GI G1-16,67% G2-2,08% GU G1- 58.33% G2-16,67% for medium risk. no toxicity was observed on the 3rd grade Gastrointestinal late toxicity (CTCAE) grade 2 was observed in 3 patients (3%, rectal bleeding), and all three were short-term problem . Genitourinary late toxicity (CTCAE) grade 2 was observed in 1 patient (1% in incontinence). So far, in this group of patients showed 5 PSA relapse (5% of patients) followed by four passes pelvic lymphadenopathy in two cases in addition to the dissemination to scaffold. There was no local relapse

Concluding message
Stereotactic proton radiotherapy for prostate cancer is feasible with excellent dosimetry parameters and a low degree of acute and late toxicity. Achieved interim results are promising

Disclosures
Funding: Proton therapy centre Prague **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** only observe and questionnaire method **Helsinki:** Yes **Informed Consent:** No