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Introduction & Objectives: Radiation proctitis (RP) represents a clinical entity that may arise from previous exposure to ionizing radiation as part of radiation therapy (RT) for pelvic malignancies. The progressively more complex RT techniques have been contributing to a significant decrease in the number of cases. Clinical findings may dictate the need for endoscopic treatment with argon plasma coagulation (APC).

Primary endpoint: characterization of the population with prostate cancer (PC) treated by 3D conformal external beam radiotherapy (3D-EBRT) with endoscopic diagnosis of RP.

Secondary endpoints: assessment of overall survival and disease-free survival in this group of patients.

Materials & Methods: Retrospective, unicentric study that included all patients with non-metastatic PC treated by 3D-EBRT with endoscopic diagnosis of RP between 2008-2017. Statistical assessments were obtained by IBM SPSS® including descriptive statistics, t-student test, ANOVA, logistic regression and Kaplan-Meier method.

Results: This study included 88 patients with a median age at diagnosis of 68.7 years (± 6.1). Most patients presented intermediate-risk PC (65.6%). All patients were treated by 3D-EBRT, from which 90.9% were treated with definitive intent, 5.7% with adjuvant intent and 3.4% with salvage-3D-EBRT. Most common acute toxicities were dysuria (37.8%), diarrhea (27.8%) and pollakiuria (18.9%). About 84.4% presented rectal bleeding after the conclusion of 3D-EBRT. The median time between the end of 3D-EBRT and the endoscopic diagnosis of RP was 64.2 weeks and the median number of endoscopic treatments with APC needed was 2 (range 1-11). After a median follow-up of 84.9 months, the median progression-free survival (PFS) was 165.5 months and the median overall survival (OS) was 139.9 months. Statistical significance predictors of relapse included PC risk group ($p=0.028$; $F=4.98$), 3D-EBRT intent ($p<0.001$; $F=16.2$), urinary retention ($p<0.001$; $F=35.4$), nocturia ($p<0.001$; $F=18.0$) and diagnosis of other malignancies ($p=0.011$; $F=6.7$). Statistical significance predictors of death included haematuria ($p=0.045$; $F=4.2$), rectal bleeding ($p=0.002$; $F=10.2$), tenesmus ($p<0.001$; $F=14.7$) and radiation cystitis ($p=0.030$; $F=4.9$). In multivariate analysis, only urinary retention has shown negative impact on PFS [HR 7.30 (IC95% 0.01-7.98)] whereas the number of endoscopic APC needed for treating RP was associated with a positive impact in OS [HR 0.13 (IC95% 0.02-0.97)].

Conclusions: RP remains an important complication from 3D-EBRT with high morbidity. According to the present study, a lower number of endoscopic APC needed for treating RP has shown to constitute a mitigating factor for mortality. The occurrence of urinary retention was an independent factor that shown to negatively affected the PFS.