

# **MP 22-08: Impact of GreenLight laser Vaporization on patients with Prostate Cancer treated with Image guided Radiotherapy**

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## **Introduction and Objective:**

To determine if a prior history of GreenLight laser photoselective vaporization (PVP) leads to more acute GU toxicity during prostate radiotherapy.

## **Methods:**

From 2012 through 2016, 2284 patients with organ confined prostate cancer (PCA) were treated with definitive image guided radiotherapy (IGRT) to a median dose of 7920cGy (range, 7740-7920cGy). One hundred fifty five patients were retrospectively identified as having had PVP for obstructive urinary symptoms. PVP was performed with a median power of 120W (range, 80-180). All patients were followed for a minimum of 6 months (range, 6-36) and acute toxicity was scored by RTOG and CTCAE version 4 criteria.

## **Results:**

The median age was 69 years (range, 52-87), the median prostate volume was 62cc (range, 30-171), and 62% of patients received concurrent androgen deprivation therapy. The pre- IGRT median IPSS score was 11 (range, 0-35) and 95% of patients were continent at initiation of IGRT. The median interval between PVP and initiation of IGRT was 80 days (range, 34-1120). Eighty eight percent of patients had at least a two month post PVP interval for resolution of hematuria urgency or pain. During IGRT, GU toxicity was grade 0 in 35%, grade 1 in 43%, and grade 2 in 22% of patients. The median 4 month IPSS score was 7 (range, 0-34). No patient developed incontinence during IGRT. No significant association was found between GU toxicity and age, prostate volume, or pre-IGRT IPSS score. We analyzed the incidence of grade 2 GU toxicity versus time interval between PVP and IGRT and found no significant differences (Chi Square=0.646). Grade 2 GU toxicity was found in 20% of patients treated within 60 days, 23% in patients treated 61-120 days, 11% in patients treated 121-190 days, and 25% in patients treated more than 190 days after PVP.

## **Conclusions:**

Patients treated with PVP prior to IGRT did not have more acute GU toxicity than one would expect during radiotherapy. Eighty eight percent of our patients had at least a 60 day post PVP healing interval and waiting longer than 60 days after PVP did not significantly change the incidence of GU toxicity. Longer follow up is required to determine the impact of PVP on late GU toxicity.