Hypofractionated radiotherapy for prostate cancer and its biochemical outcome (HYPABLO)

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Introduction: We evaluated the biochemical control, acute and late toxicities, and the factors affecting outcome and toxicities in patients with adenocarcinoma prostate treated using moderate hypofractionated radiotherapy(RT) under image guidance.

Material and Methods: A total of 106 patients of non-metastatic adenocarcinoma prostate treated with moderate hypofractionated RT from 2010 to 2015 were included in the study. Patients were stratified into low, intermediate and high risk groups as per National Comprehensive Cancer Network (NCCN) criteria. The dose prescribed was 60 Gy in 20 fractions to low risk, 65-68 Gy in 25 fractions to high risk and either of the two regimens to intermediate risk based upon physician discretion. The primary endpoint was biochemical control. The secondary endpoint was acute and late toxicity.

Results: The median age among patients was 72 years. Among 106 patients, 11.3% were classified as low, 16% as intermediate, and 72.6% as high risk. The median follow-up time was 30 months. The 3 year actuarial biochemical relapse free survival (using Kaplan-Meier estimates) was 93.4%. Sixty four patients (60.3%) developed acute genito-urinary (GU) toxicities grade ≥ 2 and 9 (8.5%) developed acute GU grade 3 toxicities. One patient (0.9%) had acute grade 4 urethral stricture. Twenty four patients (22.7%) developed acute gastro-intestinal (GI) grade ≥ 2 toxicities and 2 (1.9%) developed grade 3 toxicities. Thirty nine patients (36.8%) developed late GU grade ≥ 2 toxicities and 13 (12.3%) developed grade 3 toxicities. The late GI grade ≥ 2 toxicity was noted in 14 patients (13.2%). Nadir PSA and Gleason score were independent risk factors associated with biochemical recurrence. The bladder dose parameters (D30, D50 and D70) correlated with both acute and late GU grade ≥ 2 toxicities ($p<0.001$). Similarly, rectal dose parameters significantly correlated with both acute and late GI grade ≥ 2 toxicities ($p<0.001$).

Conclusion: Moderate hypofractionated RT is an effective treatment modality with excellent biochemical control achieved with acceptable acute and late toxicities.



Biography:

Vineet Nakra is currently working as Registrar, Radiation Oncology at Apollo Proton Cancer Centre, India. He has a DNB in Radiation Oncology from National Board of Examinations (NBE) in India and was trained in Radiation Oncology at Max Super Speciality Hospital, Saket, New Delhi. He is a life member of Association of Radiation Oncologists of India (AROI).