PTCOG-AO 2025
HONG KONG
NOV 7-9

Theme: Clinical

Abstract No:. PTCOG-AO2025-ABS-0092

Abstract Title: Stereotactic Body Proton Therapy (SBPT) for Localized Prostate Cancer: Preliminary Clinical Results of Clinician- and Patient-Reported Outcomes

Author Names: Darren M.C. Poon[1], Oi Lei Wong[2], Jing Yuan[2], Bin Yang[3], Sin Ting Chiu[4], Cindy Xue[2], George Chiu[4], Siu Ki Yu[3].

[1]Comprehensive Oncology Center; [2]Research Department, [3]Medical Physics Department; [4]Department of Radiotherapy, Hong Kong Sanatorium & Hospital, Hong Kong SAR China

Background / Aims:

This study presents the preliminary clinical outcomes of Stereotactic Body Proton Therapy (SBPT) for localized prostate cancer (PC), evaluating both clinician-reported outcome measures (CROMs) and patient-reported outcome measures (PROMs) in the first prospective Asian cohort.

Subjects and Methods:

- 45 consecutive localized prostate cancer patients with a minimum follow-up of 1 month (median follow-up: 6.87 months; range: 2.03–18.57 months) enrolled in this prospective single-center study.
- Five-fraction SBPT, with or without whole pelvis lymphatics (WPL) irradiation and/or intraprostatic lesion (IPL) boost.
    - Technique: pencil-beam scanning
    - Pre-treatment preparation: fiducial marker and hydrogel rectal spacer implantation
    - Motion control: Rectal balloon and bladder preparation protocols, and daily MRI and onboard orthogonal X-ray imaging.
- For unfavorable intermediate and high-risk patients, androgen deprivation therapy was started prior to SBPT.
- CROMs and PROMs were evaluated at baseline, 3-month (acute phase), and every 3-months thereafter (subacute phase: >3-12 months)
- Temporal change in PROM scores were analyzed using ANOVA
- PSA level at baseline and 3-month post-treatment were compared using Wilcoxon signed-rank test (α=0.05)

Table 1: patient characteristics

Characteristics	Values
Number of patients (counts)	45
Mean Age (years)	67.67 ± 7.76
Clinical T stage (counts)	
T1	3
T2	34
T3	8
SBRT + ADT (counts)	23
ISUP grade	
1	8
2	10
3	12
4	10
5	5
Baseline PSA (ng/mL)	12.97 ± 17.94
D'Amico Risk level (counts)	
High	22
Intermediate	20
Low	3

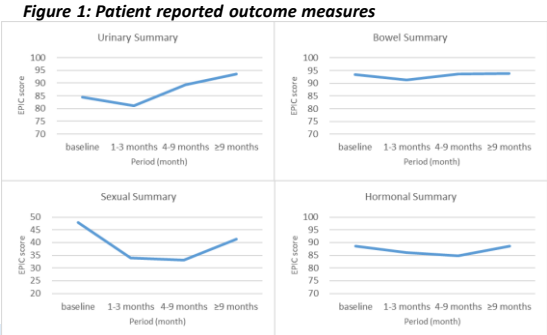
Results:

- No grade ≥2 toxicities were reported by clinicians.
- PROM showed significant changes in urinary and sexual summary score
- PSA levels decreased significantly from 12.97±17.94 ng/mL at baseline to 1.08±1.65 ng/mL at 3 months post-treatment ($p < 0.001$).

Table 2: Clinician reported outcome measures

Follow-up Phase		Baseline (n=45)		Acute (n=45)		Subacute (n=40)	
Toxicity grade (CTCAE v.5.0)		G1	G2	G1	G2	G1	G2
GI toxicity	Flatulence	0	0	2	0	0	0
	Rectal Hemorrhage	0	0	0	0	1	0
	Constipation	0	0	2	0	0	0
	Diarrhea	0	0	3	0	1	0
GU toxicity	Urinary retention	1	0	7	0	2	0
	Cystitis noninfective (nocturia)	11	0	12	0	14	0
	Urinary Frequency	6	0	13	0	6	0
	Dysuria	0	0	14	0	1	0
Others	Back pain	1	0	0	0	0	0
	Fatigue	1	0	7	0	4	0
	Arthralgia	1	0	0	0	1	0
	Erectile Dysfunction	0	0	3	0	4	0
	Hot Flashes	1	0	7	0	6	0

Figure 1: Patient reported outcome measures



Conclusion:

- These preliminary results affirm the safety and efficacy of SBPT for localized PC.
- Transient declines in PROM scores were observed, with recovery to baseline by 3 months post treatment.