Clinical characteristics and treatment patterns of high-risk prostate cancer (HR LPC) patients treated with radical prostatectomy (RP) and perioperative hormonal therapy (HT) in Japan, South Korea, and Taiwan

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KEY TAKEAWAY

- Globally, while studies on the use of perioperative HT as part of a multi-modal therapy are ongoing to discover an optimal strategy for the management of HR LPC patients, a proportion of patients with HR LPC in the Asia Pacific region are already receiving perioperative treatment.

HR LPC: high-risk localized prostate cancer; HT: hormonal therapy

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CONCLUSIONS

- While the proportion of HR LPC patients receiving RP was similar within the Asia-Pacific region, clinical practice on the use of perioperative HT differed.
- HR LPC patients who received intermittent HT were not included into this study, which may have led to the observed lower percentage of patients who received RP and perioperative HT in Korea and Taiwan.
- The proportion of HR LPC patients receiving RP in the Asia-Pacific region was higher compared to the United States in 2013 (42.0%)[1].

HR LPC: high-risk localized prostate cancer; HT: hormonal therapy; RP: radical prostatectomy

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BACKGROUND

- HR LPC patients have a significant chance of developing systemic or local recurrence and are at increased risk for symptoms and/or death from the disease[2-3].
- Although treatment options including RP, radiation therapy with or without androgen deprivation therapy (ADT), and chemotherapy are available for HR LPC patients, there is currently no consensus on the best treatment for these patients[4].
- Several studies have reported favorable benefits associated with the use of neoadjuvant or adjuvant ADT in HR LPC patients despite the inconclusive role of these perioperative treatments for HR LPC patients[5-6].
- Data on HR LPC patients treated with RP and perioperative HT is lacking in the Asia-Pacific region.
- This study aims to describe the real-world clinical characteristics and treatment patterns of HR LPC patients in Japan, South Korea, and Taiwan.

ADT: androgen deprivation therapy; HR LPC: high-risk localized prostate cancer; HT: hormone therapy; RP: radical prostatectomy

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METHODS

Study design and data sources

- A retrospective observational study was conducted.
- Data from chart review at five sites in Japan and data from electronic medical records of three medical centers in Korea and a multi-hospital system in Taiwan were utilized.
- Data on clinical characteristics and treatments were collected.

Study population

- Eligible patients were adults ≥18 years newly diagnosed with prostate cancer between 1 January 2015 and 30 June 2017 and had exactly one high-risk feature as per NCCN prostate cancer guidelines:
  - cT3a; or
  - Gleason Grade Group 4 or 5; or
  - Prostate-specific antigen (PSA) >20 ng/mL.

NCCN: National Comprehensive Cancer Network; PSA: prostate-specific antigen

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METHODS (2)

Study population (continued)

- Patients also received RP during the same period and had at least one of the following perioperative HT patterns:
  - ≥3 months neoadjuvant HT, with the last dose of neoadjuvant HT given within 2 months before RP; and/or
  - ≥6 months adjuvant HT, with the first dose of adjuvant HT given within 6 months after RP.

Analyses and reporting

- Patient data till 30 June 2022 were included, where possible.
- Descriptive statistics were used to summarize the data.
- Considering differences in data collection methodology and clinical practice, data for Japan were reported separately from Korea and Taiwan.

HT: hormone therapy; RP: radical prostatectomy

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RESULTS

Study population

- Approximately 72% of newly diagnosed HR LPC patients in Japan, South Korea and Taiwan received RP.
- A total of 72 (20.3%) HR LPC patients in Japan and 33 (4.9%) HR LPC patients in Korea and Taiwan who received RP and perioperative HT were eligible for inclusion into this study.

TABLE 1: Attrition table for HR LPC patients included in final analysis for Japan, Korea and Taiwan

	Japan N (%)	Korea and Taiwan N (%)
No. of newly diagnosed HR LPC patients	354 (100.0)	677 (100.0)
No. of newly diagnosed HR LPC patients who received RP	257 (72.6)	490 (72.4)
No. of newly diagnosed HR LPC patients who received RP and perioperative HT	72 (20.3)	33 (4.9)

HR LPC: high-risk localized prostate cancer; HT: hormonal therapy; RP: radical prostatectomy

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RESULTS

Treatments

- Robot-assisted RP was the most common type of RP performed in both cohorts.
- Majority (98.5%) of HR LPC patients in the Japan cohort received neoadjuvant HT with RP.
  - Median duration of neoadjuvant HT was 7.1 months.
- Among HR LPC patients who received only neoadjuvant HT in the Japan cohort, the most frequently used neoadjuvant HT was LH-RH antagonist (75.4%), followed by the combination of first-generation anti-androgen with ADT (14.5%).

TABLE 2: Types of RP and perioperative HT given to HR LPC patients in the Japan cohort and in the Korea and Taiwan cohort

	Japan cohort (N=72)	Korea and Taiwan cohort (N=33)
Type of RP		
Robot-assisted RP	68 (94.4%)	22 (66.7%)
Laparoscopic RP	4 (5.6%)	4 (12.1%)
Retropubic RP	0	0
Open radical RP	0	7 (21.2%)
Type of perioperative HT		
Neoadjuvant HT	69 (95.8%)	2 (6.1%)
Adjuvant HT	1 (1.4%)	31 (93.9%)
Neoadjuvant + adjuvant HT	2 (2.8%)	0

ADT: androgen deprivation therapy; HR LPC: high-risk localized prostate cancer; HT: hormone therapy; LH-RH: luteinizing hormone-releasing hormone; RP: radical prostatectomy

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RESULTS

Treatments (continued)

- Majority (93.9%) of HR LPC patients in the Korea and Taiwan cohort received adjuvant HT with RP.
  - Median duration of adjuvant HT was 11.2 months.
- Most common adjuvant HT used in the Korea and Taiwan cohort was the combination of first-generation anti-androgen with ADT (71.0%), followed by LH-RH agonist (16.1%), and first-generation anti-androgen only (12.9%).

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ADT: androgen deprivation therapy; HR LPC: high-risk localized prostate cancer; HT: hormone therapy; LH-RH: luteinizing hormone-releasing hormone; RP: radical prostatectomy

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RESULTS

Patient and clinical characteristics

- Median age of patients was 73.5 years in the Japan cohort and 67.8 years in the Korea and Taiwan cohort.
- In both cohorts, majority of patients had cT3a and one-third of patients had Gleason grade group 4 or 5 at LPC diagnosis.
- Median PSA at LPC diagnosis was 9.3 ng/mL in the Japan cohort and 11.1 ng/mL in the Korea and Taiwan cohort.

TABLE 3: Patient and clinical characteristics of HR LPC patients who received RP and perioperative HT

	Japan cohort (N=72)	Korea and Taiwan cohort (N=33)
Age at LPC diagnosis (years)		
Median (Q1 – Q3)	73.5 (68.0-78.0)	67.8 (65.1-71.5)
Clinical T stage at diagnosis		
T1a	1 (1.4%)	0
T1b	0	0
T1c	17 (23.6%)	2 (6.1%)
T2a	7 (9.7%)	1 (3.0%)
T2b	4 (5.6%)	1 (3.0%)
T2c	11 (15.3%)	15 (45.5%)
T3a	32 (44.4%)	14 (42.4%)
Gleason grade group at diagnosis		
Gleason grade group 1	8 (11.1%)	1 (3.0%)
Gleason grade group 2	25 (34.7%)	13 (39.4%)
Gleason grade group 3	15 (20.8%)	8 (24.2%)
Gleason grade group 4	7 (9.7%)	5 (15.2%)
Gleason grade group 5	17 (23.6%)	6 (18.2%)
Baseline PSA at LPC diagnosis (ng/mL)		
Median (Q1 – Q3)	9.3 (6.7-17.0)	11.1 (8.5-23.5)

HR LPC: high-risk localized prostate cancer; HT: hormone therapy; LPC: localized prostate cancer; PSA: prostate-specific antigen; RP: radical prostatectomy

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RESULTS

Patient and clinical characteristics (continued)

- Majority (87.5%) of HR LPC patients in the Japan cohort had negative tumor margin after RP, while slightly less than half (45.5%) of HR LPC patients in the Korea and Taiwan cohort had negative tumor margin after RP.
  - Lower rate of positive margin in the Japan cohort probably due to the high prevalence of neoadjuvant HT combined with chemotherapy used in the cohort.
- Median duration of follow-up was 11.7 months in the Japan cohort and 71.8 months in the Korea and Taiwan cohort.
  - Shorter follow-up duration in the Japan cohort was due to a large number of patients being transferred back to their referring institution after receiving RP from sites included in this study.

TABLE 4: Patient and clinical characteristics of HR LPC patients who received RP and perioperative HT

	Japan cohort (N=72)	Korea and Taiwan cohort (N=33)
Tumor margin		
Positive	6 (8.3%)	18 (54.5%)
Negative	63 (87.5%)	15 (45.5%)
Unknown	3 (4.2%)	0
Duration of follow-up (months)		
Median	11.7	71.8
(Q1 – Q3)	(9.0-60.2)	(64.3-75.7)

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DISCLOSURES:

Shingo Hatakeyama has no conflicts of interest to declare.

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