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MEDICINE

Effectiveness and Feasibility of Up-Front Docetaxel Chemotherapy for Japanese Metastatic Hormone-Naïve Prostate Cancer

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Letter to the Editor

With the recent spread of prostate-specific antigen (PSA) health checks, the early-stage diagnosis of prostate cancer is becoming increasingly frequent. However, a fair few patients are still diagnosed with metastatic prostate cancer [1, 2]. The CHAARTED trial showed that early chemotherapy using docetaxel in addition to androgen deprivation therapy (ADT) in metastatic hormone-naïve prostate cancer (mHNPC) resulted in a significantly better overall survival than androgen deprivation therapy alone [3, 4]. The role of docetaxel-based chemotherapy is therefore changing and gaining increased significance. This study retrospectively reviewed the effectiveness and feasibility of up-front docetaxel chemotherapy.

A total of 12 patients received up-front docetaxel chemotherapy for mHSPC in Yokohama City University Medical Center. In the current Japanese medical insurance system, docetaxel can only be prescribed for castration-resistant prostate cancer (CRPC). We therefore use docetaxel in cases of clinically ADT-resistant prostate cancer, except for cases enrolled in clinical trials. In this study, "up-front" was defined as within 3 months from initial ADT. Six (50.0%) patients were enrolled in a clinical trial and thus assigned to the up-front docetaxel monotherapy group. The other 6 (50.0%) were initially treated by ADT monotherapy, but not dramatically responses for initial ADT treatment as worse symptoms, no improvement of CT or bone scan imaging findings). These patients were then assigned docetaxel treatment within 3 months from initial ADT. In both of cohorts, CRPC was determined using PCWG-2 criteria. And CRPC-free survival was evaluated from initial ADT treatment and CRPC time. The median (range) age was 71.5 (50–80) years old, and 11/12 (91.7%) were defined as the CHAARTED high-volume group. Eleven (91.7%) had 3 or more bone metastases, and 4 (33.3%) had visceral metastasis. The initial dose of docetaxel was 70 or 75 mg/m^2 and was scheduled to be administered for up to 6 courses every 3 or 4 weeks.

We used a comparison group, as we previously reported a total of 354 CHAARTED high-volume group using combined androgen blockade (CAB) treatment [5]. The median time to CRPC showed no marked differences between the groups as of 14.9 months in the up-front docetaxel group and 12.5 months in the CAB group ($p = 0.430$) (Fig. 1a). The median overall survival was not reached in either group, and the up-front docetaxel group showed a favorable survival but not to a significant degree ($p = 0.404$) (Fig. 1b). Eleven of 12 (91.7%) patients showed neutropenia, including 7 (58.3%) cases of grade ≥ 3 severity. The other adverse events were fatigue in 4 (33.3%), alopecia in 4 (33.3%), and neuropathy in 2 (16.7%), but all cases were grade 2. None of the patients discontinued due to side effects of up-front docetaxel treatment.

In conclusion, up-front docetaxel was feasible in Japanese mHSPC patients. The time to CRPC was similar in the high-volume docetaxel treatment group to that in the CHAARTED study. Due to the short observation period, more patients and a longer observation period are needed.

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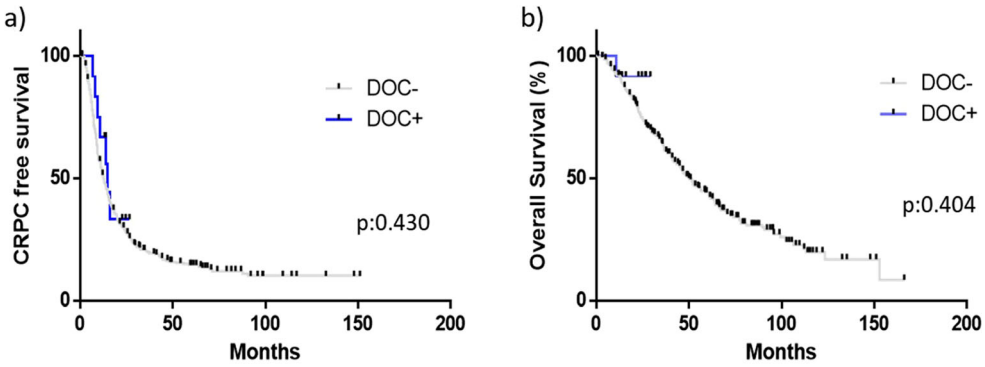

Fig. 1. Kaplan-Meier curve for the **a**) time to CRPC and **b**) overall survival.

Code Availability Not applicable.

Authors' Contributions Conceived and designed the experiments: TM, TK. Performed the experiments: TM, TK, YM, HU. Wrote the paper: TM, TK. All authors have read and approved the manuscript

Data Availability Due to ethical restrictions, the raw data underlying this paper are available upon request to the corresponding author.

Declarations

Ethics Approval The institutional review board of Yokohama City University Medical Center approved this study.

Consent to Participate Informed consent to participate in the study was obtained from all subjects by opt-out style.

Consent for Publication Informed consent for publication in the study was obtained from all subjects by opt-out style.

Conflict of Interest The authors declare no competing interests.

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