Treatment effect and costs of the complete therapeutic pathway in patients with first-line castration-resistant prostate cancer with either first-line docetaxel or abiraterone

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Objectives

First-line treatment options for castration-resistant prostate cancer (CRPC) include both docetaxel (available in the Netherlands since 2004) or abiraterone (available in the Netherlands for chemotherapy-naïve since 2013). Overall survival (OS) of docetaxel or abiraterone do not significantly differ in indirect comparisons, while there is a difference in drug costs. Consequently, treatment costs might be considered when selecting a first-line treatment. This study aimed to evaluate costs and survival of the whole treatment pathway of real-world CRPC-patients that received either first-line docetaxel or abiraterone using propensity score matching (PSM).

Methods

Data were obtained from the CAstration-resistant PRostate cancer RegIstry (CAPRI), which is an observational multi-centre registry conducted in the Netherlands. Patients who received first-line docetaxel or abiraterone between 2010 and 2015 were matched using PSM with a greedy matching algorithm and a 1:1 ratio based on baseline demographic and clinical characteristics. OS was evaluated using the Kaplan-Meier method and Cox regression. All drug, hospital and travel costs of CRPC patients were estimated.

Results

In each treatment group, 331 patients were matched by PSM. No significant differences in OS were found between patients treated with first-line docetaxel or abiraterone followed by other treatments (median: 31.3 vs 34.3 months; HR: 1.05; 95%CI 0.87-1.27; P-value=0.588) (Figure 1). Patients treated with first-line abiraterone had less subsequent treatments (44%) compared to patients treated with first-line docetaxel (78%). Mean total lifetime costs were €58,123 for the treatment sequences starting with docetaxel (drug acquisition costs: €29,434; other costs: €28,689) (Figure 2). For the treatment sequences starting with abiraterone, mean total lifetime costs were €58,887 (drug acquisition costs: €38,994; other costs: €19,893) (Figure 3).

Conclusions

No significant differences in OS and healthcare costs were found between patients treated with docetaxel or abiraterone in first-line. Therefore, factors like patient preferences, adverse events and quality of life should also be considered when choosing a treatment.

Figure 1 Kaplan-Meier overall survival curves

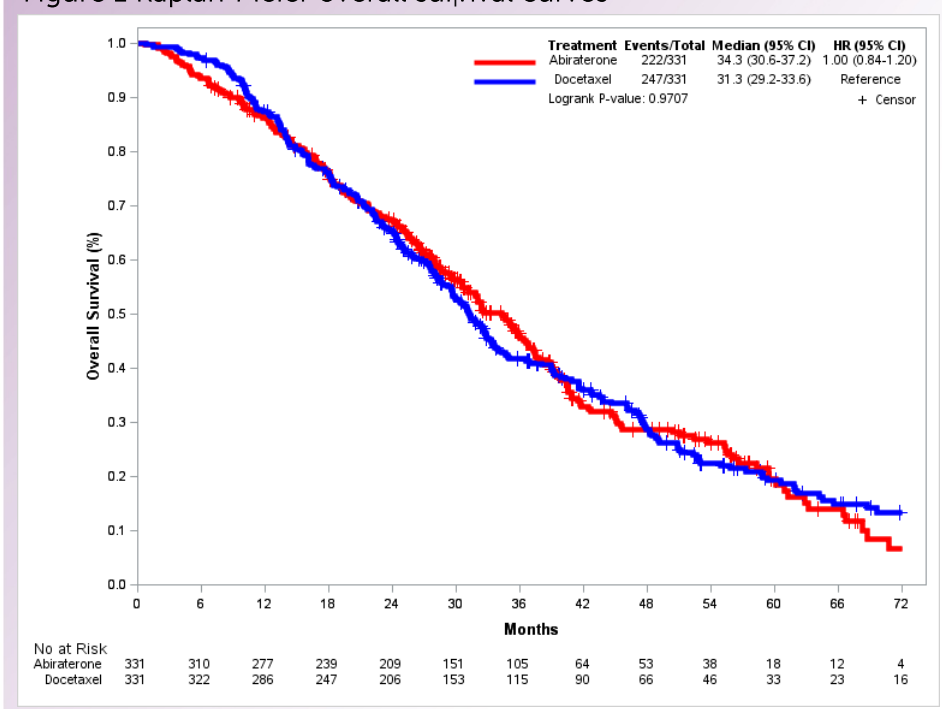


Figure 2 Division of mean total costs for patients initially treated with docetaxel

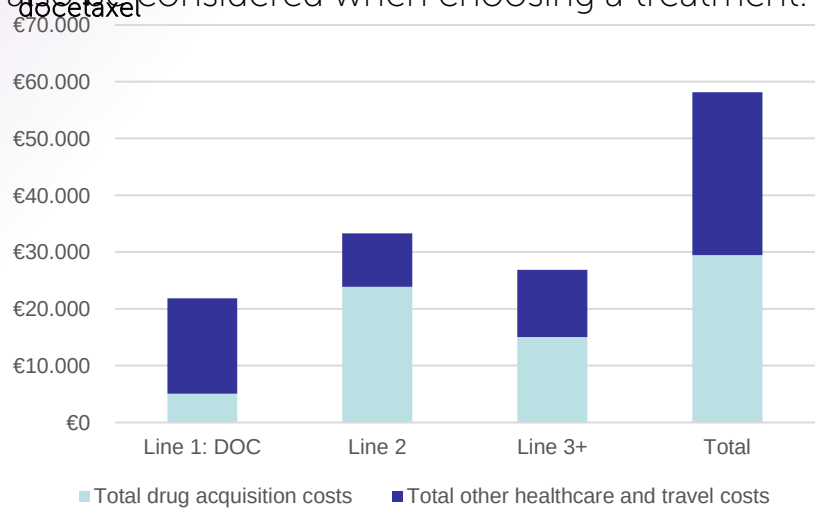
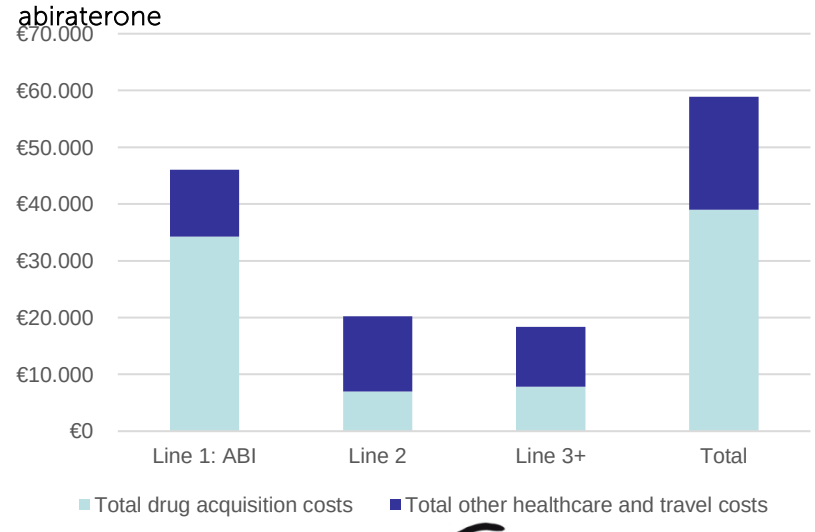


Figure 3 Division of mean total costs for patients initially treated with abiraterone



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