Study Type - Therapy (case series)
Level of Evidence 4 What's known on the subject? and What does the study add? Docetaxel rechallenge has shown preserved anti-tumour activity and has therefore been proposed as an option for further treatment in patients with metastatic castration-resistant prostate cancer, who have shown a good response to first-line chemotherapy with docetaxel. The present study provides evidence of docetaxel activity in patients who were treated with full-dose (75 mg/m²) 3-weekly docetaxel at first-line chemotherapy and rechallenge. It shows that PSA response to first-line chemotherapy may provide a rational indication for docetaxel rechallenge.

To determine whether prostate-specific antigen (PSA) response at first-line chemotherapy with docetaxel correlates with PSA response and survival at docetaxel rechallenge in patients with metastatic castration-resistant prostate cancer (mCRPC). We retrospectively evaluated the oncological outcomes of patients with mCRPC, who were treated with full-dose (75 mg/m²), 3-weekly docetaxel plus prednisone/prednisolone at first-line chemotherapy and rechallenge, between 1999 and 2011, at our institution. The endpoints were PSA-progression-free survival (PSA-PFS) and overall survival (OS) at docetaxel rechallenge. Statistical analyses included Kaplan-Meier
curves and log-rank tests to evaluate the effect of PSA response at first-line chemotherapy on PSA-PFS and OS at rechallenge. At a median (range) follow-up of 26.4 (9.8-89.8) months after the first administration of docetaxel, 24 (55%) patients had died. At first-line chemotherapy, 36 (82%) patients achieved a reduction in PSA level of >=50%. At rechallenge, 10 (28%) patients responded with a reduction of >=50% for a second time. The median (95% confidence interval [CI]) PSA-PFS was 5.9 (95% CI 3.5-6.8) months and the median OS was 21.8 (95% CI 19.9-23.7) months at docetaxel rechallenge. Of the PSA response variables evaluated, only a PSA level reduction of >=50% at first-line chemotherapy correlated significantly with prolonged PSA-PFS (5.8 vs. 4.5 months; P = 0.01) and OS (22.1 vs. 7.2 months; P = 0.03) at rechallenge. In the present single-institution study, a reduction in PSA level of >=50% at first-line chemotherapy with docetaxel correlated with superior PSA-PFS and OS in the rechallenge setting and might, therefore, present a rational indication for docetaxel rechallenge.