Upfront docetaxel in the post-STAMPEDE world: Lessons from an early evaluation of non-trial usage in hormone-sensitive prostate cancer

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Madam, aiming to evaluate the influence of the Systemic Therapy in Advancing or Metastatic Prostate Cancer: Evaluation of Drug Efficacy (STAMPEDE) trial on clinical practice we carried out a National Health Service (NHS) service evaluation on the referral pattern, management, toxicity and outcome of upfront docetaxel treatment for newly diagnosed hormone-sensitive prostate cancer at the Royal Marsden NHS Foundation Trust.

We observed a 26.15% increase in referrals for newly diagnosed prostate cancer patients in the 5 month period after the announcement of the STAMPEDE results compared with the respective period immediately before and a 59% increase in the referral of potentially docetaxel-eligible patients. Of the latter, 9.8% and 34.6% received docetaxel in the pre- and post-STAMPEDE periods, respectively (+253%). The median age was 65 years; the median prostate-specific antigen (PSA) at docetaxel start was 2.8 ng/dl. Using the Common Terminology Criteria for Adverse Events (CTCAE v.4.03), the rate of grade 3-4 neutropenia was 36.3%, febrile neutropenia was 18.2%; no grade 5 events. Our practice of obtaining a full blood count on day 7 of the first cycle did not prevent febrile neutropenia. Dose reduction was required in 39.4%, principally for neutropenia. Treatment delay occurred in 33.3%; the discontinuation rate was 12.1%. Hospital admissions, some multiple, occurred in 27.3% of patients throughout treatment, mostly for febrile neutropenia (54.4%). The median PSA decrease was 96.3%, with 94% of patients showing $\geq$75% decrease. Within a short follow-up (8.5 months), 15% of patients had disease progression, all with PSA progression, while 6% also showed radiological progression.

Our study documents that STAMPEDE has profoundly influenced the daily practice and referral pattern for newly diagnosed metastatic hormone-sensitive prostate cancer. It also confirms the higher haematological toxicity compared with castration-resistant prostate cancer patients [1-5] although one report indicates no significant difference [6]. The observed significant morbidity entails associated socio-financial costs and a potential compromise of the intended therapeutic benefit, owing to treatment delays, dose reductions and discontinuations. This strongly indicates the need for prophylactic granulocyte colony-stimulating factor use, at least until we have

a better understanding and predictive biomarkers for docetaxel toxicity in the hormone-sensitive setting.

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