Carboplatin dose based on actual renal function: no excess of acute haematotoxicity in adjuvant treatment in seminoma stage I

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Introduction
The practice of carboplatin dosing is not concordant among different centres and oncologists. Some clinical guidelines recommend capping of the carboplatin dose at, for example, creatinine-clearance (Crea-Cl) of 125 mL/min because of concerns of excessive toxicity. Clinical data to support such recommendations are lacking, especially in patients with seminoma.

Methods
This is a retrospective analysis of acute haematotoxicity of patients with stage I seminoma treated with adjuvant carboplatin area under the curve (AUC) 7 in routine practice in two Swiss centres in 2005-2015, and a comparison of incidence and grade (according to Common Terminology Criteria for Adverse Events v4.0) of haematological adverse events (hAEs) in patients with Crea-Cl <125 mL/min vs >125 mL/min without dose capping.

Results
74 patients with 229 documented measurements were included (median 3/patient). A total of 151 hAEs occurred. Platelet nadir occurred earlier than median white cell/neutrophil count (median day 15 vs day 22; P<0.0001). The majority of hAEs were mild, with more than 80% being of grade 1. Only two (2.7%) clinically relevant hAEs necessitating subsequent interventions occurred (one patient received platelet transfusion, one patient with febrile neutropaenia). Haematological toxicities were not statistically different in patients dosed with Crea-Cl >125 mL/min versus those with Crea-Cl <125 mL/min. No hAEs other than grade 1 occurred before day 10 and after day 24.

Conclusions
Toxicity after single-dose carboplatin AUC 7 is generally mild. No excess of toxicity occurs in patients with high Crea-Cl above 125 mL/min, and therefore dose capping is not routinely necessary. In addition, this study provides a rationale for efficient use of healthcare services without compromising patients' safety.