



Busulfan treatment in patients before bone marrow transplantation and early indicators of renal tubular function

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Abstract:

In order to carry out safe anticancer chemotherapy, kidney function should be monitored. The aim of our work was to demonstrate the role of α_1 -microglobulin (α_1 -M) and N-acetyl-beta-D-glucosaminidase (NAG) for the monitoring of renal function in patients with hematological malignancies before and during high-dose busulfan-based conditioning regimen prior to bone marrow transplantation (BMT). On the basis of our study, we have shown that α_1 -M concentrations and NAG activity increased in urine in patients with hematological cancers, especially after 13-dose busulfan therapy. Our preliminary results lead to the conclusion that both supportive therapy and administration of busulfan can impair tubular function. These observations have shown that it is necessary to carry out detail estimation of kidney excretory function during anticancer chemotherapy in the patients waiting for BMT. Detection of an increased α_1 -M concentration and NAG activity in urine can be helpful for the recognition of the patients at high risk of tubular dysfunction. Disturbances of kidney function should be considered during the planning of individual drug dosage regimens.

Key words:

kidney function, α_1 -M, NAG, busulfan
