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MEETING ABSTRACT

A5.1

**The influence of detoxification agents on the intensity of side effects caused by medium-high doses of methotrexate in children with acute lymphoblastic leukemia: case series**

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**Background:** The treatment of childhood acute lymphoblastic leukemia (ALL) in Serbia is conducted according to protocol ALL IC BMF-2009. The therapy includes the application of cytostatic drugs methotrexate and 6-mercaptopurine, and drug detoxifying calcium folinate. At the moment, 80% of affected children could be cured with the current treatment, but resistance to the therapy and its toxic effects remain serious clinical problems. The aim of the study was to investigate the influence of detoxification agents (calcium folinate, silymarin and ursodeoxycholic acid) on the side effects of methotrexate, applied in this protocol.

**Methods:** A modified acute toxicity form (GPOH) was used for the monitoring of side effects. The research included children with either standard or intermediate risk ALL in the consolidation therapy phase, who were hospitalised at the Institute for Child and Youth Health Care of Vojvodina in Novi Sad during the period from July 2013 to February 2014.

**Results:** The most frequent side effect after 40 applications of methotrexate in ten children was bone marrow depression. Methotrexate caused: leukopenia in 10 patients, thrombocytopenia in 5 patients; after the use of folic acid, platelet count increased in 8 patients, leukocyte count in 2 patients. Less frequent side effects: increased serum transaminase activity, fever, bronchopneumonia, diarrhoea with mild cramps, and hypercalcaemia.

**Discussion:** The application of calcium folinate, silymarin and ursodeoxycholic acid prevented the occurrence of severe adverse effects caused by medium-high doses of methotrexate. Observed adverse effects were of mild to moderate intensity, reversible, and did not significantly disturb the quality of life in treated patients.

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