

Poster Abstracts

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METHYLENE BLUE IN TREATMENT OF IFOSFAMIDE-INDUCED ENCEPHALOPATHY: REPORT OF 4 CASES

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Introduction: Ifosfamide is an alkylating agent used in the treatment of several neoplasias. One of the side effects associated with the use of ifosfamide is ifosfamide-induced encephalopathy (IIE), which can resolve spontaneously within 48 to 72 hours if discontinued ifosfamide. There have been some reports of patients with IIE being successfully treated with methylene blue (MB).

Objective: To report the effective treatment of methylene blue in ifosfamide induced encephalopathy. **Methods:** A retrospective chart review in patients with IIE whom treated with methylene blue in Ramathibodi hospital between 2014 to 2016.

Results: There were 4 patients (age 41 to 58 years) with neoplasia whom treated with ifosfamide in dosages ranging from 1.5 to 2 g m⁻² in 2 to 4 hours infusion rate combination with Mesna 100% of the daily dose of ifosfamide. All of them had IIE since the first ifosfamide cycle. They developed National Cancer Institute-Common Toxicity Criteria (NCI-CTC) neurotoxicity grade 2 or higher within 3 to 4 days of ifosfamide treatment. The risk factor for IIE which found in all cases was hypoalbuminemia (serum albumin 11.8 to 28.2 g/L). Renal tubular acidosis occurred in all patients, one received hemodialysis. Baseline serum creatinine was normal (0.69 to 1.08 mg/dL) prior the beginning of ifosfamide treatment. Two patients were treated with 4 doses of 50 mg MB intravenously, the others were treated with 6 doses, and 8 doses. Thiamine was given in all patients in variable dosage, a total intravenous dose ranged from 800 to 2100 mg. The patients were recovery fully within 16, 18, 24 and 33 hours after the first dose of MB treatment. None of them received prophylactic treatment with neither thiamine nor MB prior ifosfamide infusion. After IIE had occurred all of the patients were changed the regimen of chemotherapy treatment, so we have no data about the benefit of MB prophylaxis for IIE.

Conclusion: Methylene blue is an effective treatment for ifosfamide-induced encephalopathy, and may shortening the recovery time of encephalopathy.