

MO-06

Acute versus chronic methotrexate poisoning; a cross-sectional study

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Objectives: There is little data comparing acute and chronic methotrexate (MTX) poisoning, an anti-folate drug that may be prescribed in some malignant or chronic inflammatory conditions [1]. The aim of the current study was to compare signs and symptoms, complications, treatment and final outcome of acute and chronic MTX toxicity.

Methods: In a retrospective study in a referral center between March 2010 and March 2018, all patients who had been referred with the history of MTX poisoning and hospitalized due to acute or chronic poisoning were evaluated and compared.

Results: Of the total 27 patients admitted during the study period, 13 had referred with acute and 14 had referred with chronic toxicity. Mean age was significantly higher in the second group ($P<0.001$). Median total dose of MTX was similar between the groups ($P=0.90$). Mucosal ulcers and skin lesions ($P<0.001$ and 0.02 , respectively) were the only symptoms significantly different between the two groups. Leukopenia ($P<0.001$), thrombocytopenia ($P<0.001$), and anemia ($P=0.04$) were significantly more common in the second group. Blood urea nitrogen and creatinine were also significantly higher in the second group of patients ($P<0.001$ and $P=0.048$). Median leucovorin administered dose was 200 mg [14, 480] versus 150 mg [75, 187] ($P=0.69$) in groups 1 and 2, respectively.

Conclusion: Chronic MTX poisoning is serious and accompanies higher dermatologic, nephrologic, and hematologic complications urging more severe treatment modalities compared to acute toxicity. This may be attributable to the underlying diseases and features (including older ages) which predispose these patients to complications.

References: [1] Chan BS, Dawson AH, Buckley NA. What can clinicians learn from therapeutic studies about the treatment of acute oral methotrexate poisoning? Clin Toxicol (Phila). 2017;55:88-96