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## Long-term health sequelae of methyl alcohol intoxications: Prospective study in 50 cases

Sergey Zakharov, Daniela Pelcova, Tomas Navratil, Pavel Urban, Petr Ridzon, Pavel Diblik, Manuela Vaneckova and Ondrej Bezdicek  
Charles University in Prague, Czech Republic

A prospective study of long-term visual (VS) and nervous sequelae (NS) in 50 patients 4-8 months after confirmed methyl alcohol intoxication was conducted. Examination included standard ophthalmic tests, optical coherence tomography with retinal nerve fibers layer estimation (RNFL), visual evoked potentials (VEP), neurological and neuropsychological examination, magnetic resonance imaging (MRI), electromyography (EMG). 41 males and 9 females, median age 48 (23-73) were examined. Median serum methanol on admission was 939 mg/L (85-7307), formate 578 mg/L (0-1400), pH 7.25 (6.69-7.46). VS were diagnosed in 44% patients based on both pathologic RNFL and VEP results, and involved pathologic contrast sensitivity, colour vision, perimetry and fundoscopy. Only 55% of them had VS diagnosed at discharge from hospitals. Patients with impaired RNFL had pathologic VEP, too ( $p=0.011$ ). 68% patients with VS had MRI findings on basal ganglia ( $p<0.001$ ). CNS lesions on MRI were present in 40% cases, mainly symmetrical necrosis of putamen and globus pallidus, but no clinical symptoms of Parkinsonism were observed. Cognitive deficit of frontal type was present significantly more often in the methanol-exposed group than in the controls. Peripheral polyneuropathy was diagnosed in 30% cases (10% had diabetes type 2, 2% had occupational exposure to vibrations). Patients with VS differed in pH,  $\text{HCO}_3^-$ , anion gap, base deficit on admission (all  $p<0.01$ ). No association of long-term health sequelae was found with the type of antidote applied ( $p=0.073$ ), folate substitution ( $p=0.838$ ), or mode of hemodialysis ( $p=0.672$ ). However, ethanol administration for first aid before diagnosis confirmation ( $p=0.0097$ ) negatively correlated with VS.

### Biography

Sergey Zakharov has completed his PhD and postdoctoral studies from Charles University in Prague, 3<sup>rd</sup> School of Medicine. He is the Head of the Czech Toxicological Information Center of General University Hospital and 1<sup>st</sup> School of Medicine of Charles University in Prague.

[Sergey.Zakharov@vfn.cz](mailto:Sergey.Zakharov@vfn.cz)