

Brain manganese intoxication in hepatosplenic schistosomiasis mansoni

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Abstract: Manganese (Mn) ion is a normal dietary component of food and water. The average daily consumption of Mn in humans is lower than 2 mcg/L. Just 1-3.5% of ingested Mn is absorbed into the blood and excreted into the bile. The role of Mn is to promote enzymatic function leading to the production of mucopolysaccharides essential to the formation of bone, cartilage and connective tissue. Manganese (Mn) accumulation in the brain is detected as symmetrical high signal intensity in the basal ganglia on T1-weighted MR images without an abnormal signal on T2-weighted images. We report a case of Mn accumulation in the brain due to hepatosplenic schistosomiasis mansoni. **Case report:** A 58-year-old woman, born and raised in São Tiago, Minas Gerais state, was admitted to the outpatient clinic at the Orestes Diniz/UFMG, with a history of alcohol consumption and schistosomal liver infection. An extensive clinical and laboratory results work-up in tremor, general weakness, forgetfulness, scotoma, spatial disorientation and gait difficulty. The patient also reported daily dizziness in the past 20 months. Routine serological tests (Chagas, hepatitis B and C, and VDRL) were normal. Venous blood analysis revealed increased level of Mn (3,6 mcg/L; normal: lower than 2 mcg/L). Ultrasound detected moderate to severe periportal thickening. The magnetic resonance imaging (MRI) showed increased bilateral increased signal on T1 weighted image in the brain including the globus pallidus, subthalamus regions, and cerebral peduncles, suggesting deposit of Mn. **Conclusions:** Manganese accumulation in the brain may occur in patients with congenital or acquired portosystemic shunts with normal or liver failure. The shunted blood enters the systemic circulation and produces manganese intoxication.

Key-words: Manganese; schistosomiasis; intoxication.