Diabetes insipidus during D-Penicillamine treatment of a Wilson disease patient

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Introduction: D-Penicillamine produces frequent side-effects, which require treatment interruption in approximately 30% of cases. Of them, rare autoimmune reactions have been described (lupus, myasthenic syndrome, myositis, Goodpasture syndrome).Case presentation: A 19-years-old male was diagnosed with hepatic Wilson disease at age 5. Child A cirrhosis and hypothyroidism were detected in 2013, however he neglected treatment and started Developing neurologic symptoms in 2014, for which D-Penicillamine 250 mg qd was initiated. When admitted to our clinic in April 2015, he presented bilateral clubfoot dystonia, myoclonic jerks of lower limbs, unsteady broad-based gait, bilateral intention tremor, hypomimia, severe hypophonia, agraphia and sub-fever. Workup revealed untreated hypothyroidism, acute maxillary rhinosinusitis, compensated cirrhosis with grade II esophageal varices and raised prolactin levels. Painful dystonia and myoclonic jerks improved under treatment with Clonazepam and Gabapentin, and D-Penicillamine dosage was progressively raised at 250 mg qid. The patient returned in May 2015 for neurologic worsening, polyuria and polydipsia. Laboratory findings showed raised levels of anti-Sm, anti-La and anti-β2-glycoprotein. Through urine analysis and nephrological examination, renal causes were excluded, whereas endocrinological examination confirmed the presence of diabetes insipidus without pituitary insufficiency and regarded the cause as central (probably hypothalamic autoimmune). Brain MRI was performed and revealed normal neurohypophysis with bilateral signal abnormalities involving the basal ganglia, thalamus and upper brainstem. Polyuria and polydipsia improved after D-Penicillamine was switched with Trientine. However, neurologic worsening continued, leading to anarthria, aphonia and generalized painful dystonias. Because of difficulties in obtaining Trientine, the patient was switched back on D-Penicillamine in November 2015, without further developing diabetes insipidus. Due to severe generalized hypertonia, he became bedridden. Discussions: Treatment of Wilson disease remains limited, especially in advanced phases, as shown by our patient's progressive decline. An episode of diabetes insipidus occurred, which may have been due to D-Penicillamine.