BRAIN IRON ACCUMULATION IN PRIMARY CERVICAL DYSTONIA (MRI STUDY)

Z. Aschermann[1], G. Perlaki[2,3], P. Ács[1], B. Bóné[1], G. Orsi[2,3], Sz. Nagy[2], P. Bogner[2], K. Bihari[4], S. Komoly[1]
[1]*Department of Neurology, Faculty of Medicine, University of Pécs, Hungary*
[2]*Diagnostic Centre of Pécs, Hungary*
[3]*MTA-PTE Clinical Neuroscience MR Research Group, Hungary*
[4]*Department of Neurology, Bács-Kiskun County Hospital, Hungary*
aschermann.zsuzsa@pte.hu

Objective: To assess brain iron deposition in primary cervical dystonia using R2* relaxometry.
Background: Primary cervical dystonia is one of the most common forms of focal dystonia. In primary cervical dystonia conventional imaging techniques (CT, MRI) show no structural brain abnormalities. Yet, abnormal iron deposition has been described in different movement disorders.
Patients and Methods: Twelve patients (mean age: 45.4±8.0 years) with clinical diagnosis of primary cervical dystonia and 12 age- and sex- matched healty subjects were investigated on a 3T MRI system. In addition to structural MRI scans, R2* relaxation rates were measured in the thalamus, caudate nucleus, putamen and globus pallidus in order to assess iron deposition.
Results: Patients with primary cervical dystonia showed increased R2* values in the globus pallidus, but no other investigated structures were affected.
Conclusions: The present study provides the first data for brain iron accumulation in primary cervical dystonia. The elevated iron level of globus pallidus may be used as a biomarker of this type of dystonias.