Session S29 - Pediatric Multiple Sclerosis

Itinerary

S29.002 - Pediatric Radiologically Isolated Syndrome: Clinical and Radiological Outcomes

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Authors

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Disclosures

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Abstract

Objective:

To describe the natural history of children displaying incidental imaging findings suggestive of MS.

Background:

The term radiologically isolated syndrome (RIS) has been applied to asymptomatic individuals with incidental MR imaging findings highly suggestive of MS. RIS in adults carries a 34% risk of a first clinical event within 5 years. Such risk in individuals under 18 years of age (children) is unknown.

Methods:

Children demonstrating DIS on MRI were retrospectively analyzed from databases in 13 sites from 5 different countries using standardized variables. We used Fisher's exact test (categorical variables) or Mann-Whitney U test (continuous variables) for univariate analyses.

Results:

We identified 26 children with RIS (18F, 8M) detected at a median age of 15.3 years (range 8.9-17.8). Median follow-up time after RIS diagnosis was 4.31 years (range 0.6-17.4). The most common reason for initial imaging was headache (12/26, 46.2%). A first clinical event or MS diagnosis occurred in 11/26 (42.3%) children after a median of 2.6 years of follow-up (range 0.3-17.1). Radiological evolution occurred in 15/26 (57.7%) children after a median of 1.6 years (range 0.1-7.0). There were no differences in any of the baseline demographic variables (reason for imaging, age, sex, presence of CSF oligoclonal bands, presence of contrast-enhancing lesions, presence of spinal cord lesions) between children with and without either clinical or radiological evolution, but children with new MRI activity had lower serum 25-hydroxyvitamin D levels as compared to those with stable MRI scans (mean 17.6±7.2 vs. 47.7±12.7 ng/mL, p=0.012).

Conclusions:

We describe the first international cohort of children with RIS. RIS in childhood is associated with a high risk of a first clinical event, MS diagnosis and subsequent MRI lesions. Our preliminary findings suggest that low serum vitamin D level may increase risk of future MRI activity. Further study is warranted.