Multiple sclerosis case series

In a retrospective, single-center cohort study Yalachkov et al. searched the clinical databases (2006-2019) for patients with concurrent CNS tumors and multiple sclerosis and described their disease courses. Age at diagnosis of the respective disease and probabilities for MS disease activity events (DAEs) with vs. without prior tumor-specific therapy were tested pairwise using a t-test for dependent samples and an exact binomial test.

N = 16 patients with concurrent CNS tumors and MS were identified. MS diagnosis preceded the CNS oncological diagnosis by an average of 9 years (p = 0.004). More DAEs occurred in patients without prior chemotherapy (83.3%) than in patients with prior chemotherapy (16.7%; p = 0.008). This effect did not reach significance for patients with prior radiation therapy/radiosurgery (66.7% vs. 33.3%, p = 0.238). The average interval between DAEs and the last documented lymphopenia was 32.25 weeks.

This study describes the clinical and demographic features of patients with concurrent CNS tumors and MS and suggests several practical approaches to their clinical management. The findings suggest that adding a disease-modifying MS therapy to the regimen of patients treated with chemotherapy is necessary only if the patient suffers from a highly active, aggressive course of MS. In view of the lack of prospective trials, individual risk assessments should remain the foundation of the decision on MS treatment in concurrent CNS tumor diseases [1)].

The clinico-radiological paradox in MS is well recognised, relevant and yet poorly understood. We tested the suitability of an in vivo model for the clinico-radiological paradox, using internuclear ophthalmoplegia (INO) and the medial longitudinal fasciculus (MLF).

Method: In this cross-sectional study lesions of the MLF were rated by an experienced MS neuroradiologist blinded to all other information. Presence of an INO was objectively determined by a validated infrared oculography protocol (DEMoNS). Clinical information, amongst which the National Eye Institute Visual Function Questionnaire (NEI-VFQ-25), was obtained.

Results: This study included 202 patients with MS. The clinico-radiological paradox occurred in 50 patients (25%). This consisted of 45 patients having an INO without a MLF lesion, and 5 patients with a MLF lesion but without an INO. The visual function overall score was related to presence of an INO (p=0.016), but not to MLF lesions seen on MRI (p=0.207). A consensus list of potential causes for the clinico-radiological paradox was compiled and the MRI images were deposited in an open access repository.

Conclusion: This study provides an objective and quantitative model to investigate the clinico-radiological paradox. Our data suggest that pathology of the MLF is more frequently detected and more clinically relevant by infrared oculography than by MLF lesion rating on MRI [2)].

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132 people presenting with a clinically isolated syndrome (CIS) were prospectively recruited between 1984-87, and followed up clinically and radiologically 1, 5, 10, 14, 20 and now 30 years later. All available notes and magnetic resonance imaging (MRI) scans were reviewed, and MS was defined according to the 2010 McDonald criteria.

RESULTS: Clinical outcome data was obtained in 120 participants at 30 years. Eighty were known to have developed MS by 30 years. Expanded disability status scale (EDSS) scores were available in 107 participants, of whom 77 had MS: thirty-two (42%) remained fully ambulatory (EDSS ≤3.5) all of whom had relapsing-remitting MS (RRMS), three (4%) had RRMS and EDSS >3.5, 26 (34%) had secondary progressive MS (all had EDSS >3.5), and MS contributed to death in 16 (20%). Of those with MS, 11 have been treated with a DMT. The strongest early predictors (within 5 years of presentation) of secondary progressive MS (SPMS) at 30 years were presence of baseline infratentorial lesions and deep white matter lesions at one year.

INTERPRETATION: Thirty years after onset, in a largely untreated cohort, there was a divergence of MS outcomes; some people accrued substantial disability early on, while others ran a more favourable long-term course. These outcomes could, in part, be predicted by radiological findings from within a year of first presentation [3].

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2)
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3)
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