

MULTIPLE SCLEROSIS ASSOCIATED WITH ANAEMIC SYNDROME: A RETROSPECTIVE ANALYSIS AND LITERATURE REVIEW

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ABSTRACT:

An association of MS with different anaemic syndromes, most often pernicious and Vit. B12 deficiency anaemia has been reported in the literature. Accordingly, the coincidence of anaemia with MS has been considered to impact seriously on clinical presentation, therapeutic strategy and patient's quality of life.

Objective: To perform a retrospective analysis of 18 cases with anaemic syndrome as a factor of comorbidity in patients with MS.

Material and methods: 18 MS patients (15 women and 3 men) with RRMS (13), PPMS (2), and SPMS (3) diagnosed according to McDonald criteria were included in the present study. Average age was 36.4 ± 8.5 (22-42) years, average disease duration 10.6 ± 6.8 (4-18) years and means EDSS - 3.5 ± 2.5 points (2-6). All individuals underwent clinical, MRI and hematological examinations.

Results: The study group included patients with pernicious (n=8), Vitamin B12 (n=6), and iron (n=3) deficiency anaemia, as well as with β -thalassemia (n=1). In 12 patients anaemic syndrome preceded MS and in 6 evolved during the course of the disease.

Conclusion: Our own notices and literature review suggests a possible causative relation between MS and anaemic syndrome. The role of this coincidence on clinical presentation, necessity of additional treatment, and patient's quality of life is discussed.

Key words: MS, vitamin B 12 deficiency, pernicious anaemia, iron deficiency anaemia

An association of MS with different anaemic syndromes has been reported (1, 3, 5, 8, 10, 12). Most common are states of B12 deficiency and pernicious anaemia, occurring before or during the development of MS (2, 13). The aetiology of vitamin B12 deficiency in MS remains not always specified, but it is assumed that disorders are possible, both in absorption or in the transport of vitamin B12. Despite the unexplained nature of the association of vitamin B12 deficiency and MS, a similarity of the pathogenetic mechanisms is assumed. In addition to the well known role of vitamin B12 as a cofactor in the formation of

myelin, the significant immunomodulatory and neurotrophic effects are discussed (9). On the other hand, the epidemiological picture of pernicious anaemia shows significant similarity to that of MS (4, 11). Accordingly, the coincidence of anaemia with MS has been considered to impact seriously on clinical presentation, therapeutic strategy and patient's quality of life. Special attention is paid to the transposition of symptoms of the anaemic syndrome to the classical clinical picture in MS (6, 7).

AIM AND METHODS:

The aim of this study was to perform a retrospective analysis of 18 cases with anaemic syndrome as a comorbid factor in MS patients hospitalized in First Department of Neurology, Varna University Hospital. All patients underwent a neurological, neuro-ophthalmological and hematological examinations, MRI, vitamin B12, and serum iron assessment.

RESULTS:

All 18 patients were females, aged 22 to 42 years (36.4 ± 8.5) with clinically definitive MS, according to the criteria of McDonald, with a disease duration of 4 to 18 years (10.6 ± 6.8), and EDSS - from 2.0 to 6 (3.5 ± 2.5).

Thirteen of them were with relapsing-remitting form, 2 - with primary progressive and 3 - with secondary progressive (fig.1). Associated with anaemic syndromes were: 8 patients - with pernicious anaemia, 3 patients - with iron deficiency anaemia, 6 patients - with B 12 deficiency without anaemia, and 1 patient - with β -thalassemia heterozygous form (fig. 2). In 13 (72.2%) patients anaemia occurs before the age of 40; in 12 - prior to the start of MS, others are diagnosed in the course of the neurological disease. In all patients a specific treatment of anaemia was conducted.

CONCLUSION AND DISCUSSION:

The described cases similar to the literature review suggest a possible causative relation between MS and anaemic syndrome (1, 5, 6, 7, 10). The analysis could be useful for clarifying the nature of comorbidity of these diseases. Given the data in publications on prevalence of

vitamin B 12 deficiency or pernicious anaemia among hematological syndromes in patients with MS, confirmed also in our study, the monitoring of vitamin B 12 levels is of clinical interest (2, 4, 9, 11, 13). In case of abnormal blood count, it is necessary to take into account the role of the anaemic syndrome on the comprehensive assessment of quality of life, having in mind the transposition of symptoms to the known clinical picture of MS (3, 8, 12). The discussion of the individual or additional administration of vitamin B 12 in the treatment plan for patients is of a great importance.

Figure 1. Distribution of MS patients by forms

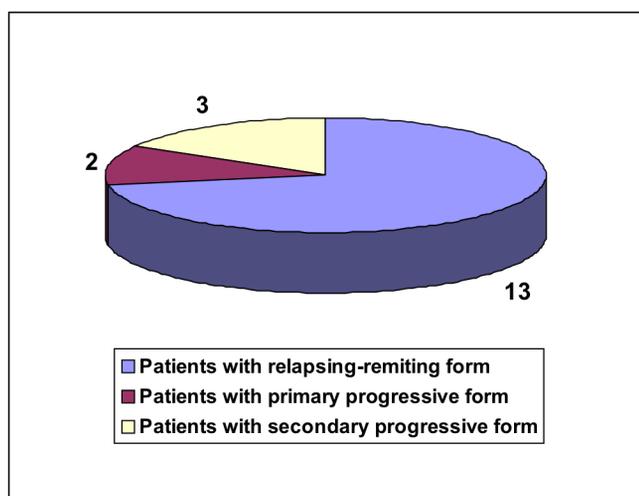
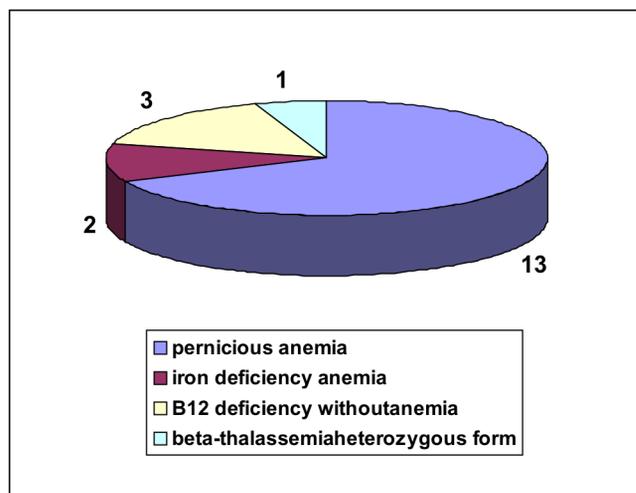


Figure 2. Association of MS patients with anemic syndromes



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