

## **EXTRACRANIAL VENOUS PATHOLOGY – A NEW CHALLENGE IN THE TREATMENT OF MULTIPLE SCLEROSIS**

**M. Denislic<sup>1</sup>**, M. Zorc<sup>2</sup>, Z. Milosevic<sup>3</sup>, M. Tiric Campara<sup>4</sup>, M. Leskošek<sup>5</sup>, D. Ravnik<sup>6</sup>

<sup>1</sup>*MC Medicor, d.d., Tbilisjska, Ljubljana, Slovenia*

<sup>2</sup>*Medical Faculty, Institute of Histology and Embryology, Ljubljana, Slovenia*

<sup>3</sup>*Clinical Centre Ljubljana, Institute of Radiology, Ljubljana, Slovenia*

<sup>4</sup>*Medical Faculty, Sarajevo, Bosnia and Herzegovina*

<sup>5</sup>*Community Health Centre, Vrhnika, Slovenia*

<sup>6</sup>*Medical Faculty, Institute of Anatomy, Ljubljana, Slovenia*

**Background:** The vascular hypothesis in the development of multiple sclerosis (MS) provides a new feasibility in the treatment of one of the most disabling neurological disease. The term chronic cerebrospinal venous insufficiency (CCSVI) is characterised by multiple stenoses of extracranial veins – internal jugular (IJ) and azygous (AZ) veins.

**Methods:** The aim of our study was to highlight the occurrence of the obstructions in the extracranial venous system. In our study 100 MS patients were included. A luminal diameter reduction of 50% is used as a threshold for angioplasty. Under mild anaesthesia the catheter venography was performed.

**Results:** The degree of the IJ and the AZ veins narrowing was similar in the group of MS patients with an early and progressive course of disease. The left IJ vein was more often involved than the right one. The number of venous lesions was related to the clinical disability. The narrowing of the AZ vein occurred less often (52%). After the angioplasty the patients reported an improvement of headache, vision, fatigue, urinary dysfunction and fewer spasms. The patients demonstrated the significant improvement of the quality of life. In two patients (2%) CV examination did not reveal any vascular abnormality. No major side-effect was noticed.

**Conclusion:** It seems that in spite of controversies regarding CCSVI the extracranial venous pathology may play an important role in developing MS. The timely angioplasty should be further investigated.