

THE RELATION BETWEEN CEREBROSPINAL FLUID OLIGOCLONAL BANDS STATUS AND DISEASE RELATED FEATURES IN MULTIPLE SCLEROSIS PATIENTS

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INTRODUCTION

If **multiple sclerosis (MS)** is suspected, the presence of positive **cerebrospinal fluid oligoclonal bands (CSF OCBs)** is considered to be the basis of MS diagnostics. Especially when paired together with clinical picture and **magnetic resonance imaging (MRI)** findings. However, the relation between the presence of positive CSF OCBs and disease related features still remains unclear.

METHODS

A **retrospective** medical record data analysis was performed with patients hospitalized in LUHS (Lithuanian University of health sciences) Kaunas Clinics with multiple sclerosis from January 1, 2019 to December 31, 2020. **Obtained data included patient age, sex, course of the disease, Expanded Disability Status Scale (EDSS) scores and their change, MRI data and its change, CSF OCBs positivity status.** The results were considered statistically significant when $p < 0.05$.

Table 1. Relation between MRI data and CSF OCBs positivity status

Variable	OCB +, n (%)	OCB -, n (%)	p	Chi-square
<i>MRI demyelinating lesion localisations</i>				
Periventricular	70 (97,2)	26 (92,9)	0,317	1,000
Callosal	58 (80,6)	20 (71,4)	0,323	0,979
Brainstem	41 (56,9)	10 (35,7)	0,057	3,636
Cerebellar	32 (44,4)	11 (39,3)	0,640	0,219
Other	37 (51,4)	15 (53,6)	0,844	0,038
Spinal cord	27 (62,8)	10 (50,0)	0,337	0,921
<i>MRI changes</i>				
Positive - stable	48 (68,6)	17 (60,7)	0,457	0,553
Negative	22 (31,4)	11 (39,3)		

CONCLUSIONS

1. Male patients were more likely to have positive CSF OCBs when compared with females.
2. No relation was found between OCBs positivity status and patient age, course of the disease, EDSS scores and their change, MRI data.
3. Patients with positive CSF OCBs were found to receive MS diagnosis earlier than OCBs negative patients.

AIM

To establish the relation between cerebrospinal fluid **oligoclonal bands** status and features related to the disease and its onset in **multiple sclerosis** patients.

RESULTS

A total of 100 patients were included in the study (71 (71%) female and 29 (29%) male). Positive CSF OCBs were found in 72 (72%) patients, the remaining 28 (28%) had negative CSF OCBs. Mean age at diagnosis was 39.23 ± 12.062 years. **Males were found to have positive CSF OCBs more often (n=25, 86.2%) when compared with females (n=47, 66.2%, $\chi^2=4.089$, $p=0.043$).** No relations regarding OCB status and patient age at first symptoms ($p=0.933$) and diagnosis ($p=0.997$) was found, except for the results shown in the **graph 1**. Moreover, no relations were observed between positive CSF OCBs and course of the disease ($p=0,751$), EDSS score at the first ($p=0.855$) and the last visit ($p=0.545$) as well as its change ($p=0,779$). Results regarding MRI data and CSF OCBs positivity status are shown in the **table 1**.

1. Graph 1. Year gap from first symptoms to diagnosis in relation with CSF OCBs positivity status

