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► **To cite this version:**

Marion Salou, L Michel, Alexandra Garcia, Annie Elong-Ngono, Sandrine Wiertlewski, et al.. T cell repertoire analysis and comparison between different compartments in two MS patients. 5th European Workshop on Immune-Mediated Inflammatory Diseases, Dec 2010, Sitges-Barcelona, Spain. BioMed Central, 8 (Suppl 1), pp.P27, 2010, Journal of Translational Medicine. <10.1186/1479-5876-8-S1-P27>. <inserm-00663874>

HAL Id: inserm-00663874

<http://www.hal.inserm.fr/inserm-00663874>

Submitted on 27 Jan 2012

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POSTER PRESENTATION

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T cell repertoire analysis and comparison between different compartments in two MS patients

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From 5th European Workshop on Immune-Mediated Inflammatory Diseases
Sitges-Barcelona, Spain. 1-3 December 2010

Background/objectives

T cells play probably a major role in the physiopathology of Multiple Sclerosis (MS). One way to study T cell responses in MS is to investigate the T cell receptor (TCR) structure in patients. This method is based on the analysis of the hypervariable region of the TCR named CDR3, responsible of the specific recognition of the antigen. To date, we know that the alterations of T cell repertoire in circulating lymphocytes are more pronounced in MS patients than in healthy controls. Moreover, several teams showed that the infiltrating T cells of the Central Nervous System (CNS) of MS patients present an oligoclonal repartition. So, it would be essential to know if correspondence exists between the alterations of the repertoire in the blood or Cerebrospinal Fluid (CSF) and in the CNS.

Methods

The brain, spinal cord, CSF and blood of two MS patients were sampled 6-8 hours after their death. CDR3 spectratyping was realized in the different compartments. Then, the alterations found were compared.

Results

For the two patients, the altered distributions in the blood were more numerous in the CD8⁺ compartment than in the CD4⁺ one. Moreover, the main peaks at the origin of the alterations in the CD8⁺ T cells from the blood were at the origin of same alterations found in the CSF. Interestingly, correspondences between alterations of the T cell repertoire of the CNS and CSF were found in 76% of the cases in the patient 1.

Conclusion

These preliminary results suggest that the T cell repertoire of the CSF is closely related to the one of the CNS lesion.

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Published: 25 November 2010

doi:10.1186/1479-5876-8-S1-P27

Cite this article as: Salou et al.: T cell repertoire analysis and comparison between different compartments in two MS patients. *Journal of Translational Medicine* 2010 **8**(Suppl 1):P27.

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