DERMATOPATHOLOGY

THE ROLE OF IMMUNE CHECKPOINTS IN MYCOSIS FUNGOIDES

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Aims: Mycosis fungoides (MF) is the most common cutaneous T-cell lymphoma (CTCL); however, the mechanisms involved in its progression from early to advanced stages have not been completely clarified. In a previous experience an increase in myeloid derived suppressor cells (MDSCs) was observed comparing patch/plaque lesions to tumour stage ones. MDSCs is a heterogeneous group of cells whose antitumor response has been related to the activity of the immune checkpoints, such as programmed death-1 (PD-1), its ligand (PD-L1) and cytotoxic T lymphocyte antigen-4 (CTLA-4) whose function is to physiologically depress immune cell response avoiding autoimmune phenomena. It has been hypothesised that the same mechanism is used by neoplastic cells to depress the anti-tumour response, gaining tumour advantages.

Methods: From the database of two Institutions formalin fixed, paraffin embedded MF cases in different stages were retrieved. PD-1 and PD-L1 expression was investigated both within the tumour and microenvironment cells. Statistical analysis (ANOVA test) was performed in

order to assess significant differences between the stages.

Results: Twenty-seven MF patients corresponding to forty-one biopsies were retrieved. Seven patients had sequential biopsies. The preliminary data shows a significant changes in PD-1 expression among the stages. PD-L1 seems to be rarely expressed in the neoplastic elements, while the same molecule was detected in the microenvironment cells in all the patients, with an increase in advanced stages. However, the differences in PD-L1 expression between the stages were not significant in the performed analysis.

Conclusions: Our preliminary data seems to suggest that immune checkpoints are involved in MF progression and may provide a rationale to use anti PD-1 and PD-L1 in MF, increasing the number of potential treatment.