PSORIASIS

EXPRESSION OF MIRNAS IN PSORIASIS. PREDICTORS TO TREATMENT RESPONSE?

E Dauden [1] - P Rodríguez-jiménez [1] - P Chicharro [1] - A Vara [2] - A Sanz-garcía [2] - E Rivas [2] - M Llamas-velasco [1] - H De La Fuente [2] - F Sánchez-madrid [2]

Department Of Dermatology, Hospital Universitario De La Princesa, Madrid, Spain [1] - Department Of Immunology, Hospital Universitario De La Princesa, Madrid, Spain [2]

Introduction: The potential of miRNAs signatures to predict outcome or response to therapy have focused scientist attention on these molecules as clinical biomarkers.

Objective: To analyze the expression of microRNAs in skin samples of psoriasis patients, and identify microRNAs non-characterized previously in this disease, as well as their modification in response to treatment.

Material and Methods: Using Next Generation Sequencing from skin samples (lesional and non-lesional skin) of psoriasis patients, we selected a group of microRNAs differentially expressed focusing on that had not previously described in psoriasis. Expression of microRNAs was analysed by RT-PCR in 33 patients. In some cases, an additional skin sample from a residual lesion after 3 months of treatment was obtained.

Results: Statistical analysis showed that smoking condition should be considered for the expression of miRNA-133a-3p and miRNA-375, age for miRNA-135b-5p, miRNA142-3p and MiRNA-378a, while gender may influence the expression of miRNA-3145 and miRNA-133a-3p. Our data showed that lesional skin express very low levels of miRNA-9-5p, miRNA-133a-3p and miRNA-375 compared to non-lesional skin. On the contrary, the expression of miR-135b-5p miRNA-31 and miR-3878a, was increased in lesional skin in comparison to non-lesional skin. After treatment, the expression of mir-375 and mir-133a-3p in residual biopsies was higher compared to the lesional skin in the same patient. However, no differences were detected in other miRNAs such as mir-31. Multivariable statistical analysis showed that expression of mir-375 and mir-378a could be useful to predict response to treatment.

Conclusions: Because of the characteristics of microRNAs, it is likely that the simultaneous dysregulation of several miRNAs may be involved in psoriasis. In this study we identify 3 uncharacterized miRNAs in psoriasis (miRNA-9-5p, mir-375, and mir-133a-3p) that could help to elucidate the role of microRNAs during psoriasis development. Moreover, we propose a group of miRNAs as putative predictors to treatment response.