SKIN CANCER (OTHER THAN MELANOMA)

LANGERHANS CELLS DISPLAY A MATURE IMMUNOPHENOTYPE, CHARACTERIZED BY CD83 EXPRESSION, IN SQUAMOUS CELL CARCINOMAS

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Introduction: Langerhans cells (LCs) are the typical dendritic cell (DC) subset of the epidermis and mucosal epithelium, involved in skin immune responses. In the last year, LCs have been supposed to be implicated also in tumour tolerance, particularly for melanoma.

Objective: Beside the well-known melanoma-induced LCs alterations, i.e. the immature-tolerogenic immunophenotype due the onset of an immunosuppressive microenvironment, little is known about LCs role in Non Melanoma Skin Cancers (NMSC), caused by UV radiation through a multi-step sequence starting with p53 mutation in skin keratinocytes. Among NMSC, squamous cell carcinoma (SCC) is supposed to arise from actinic keratosis (AK) in sun-exposed skin by accumulation of mutated p53 keratinocytes, the so-called “p53-patches” (cancerization field, CF).

Materials and Methods: Analysis of LCs density and immunophenotype, particularly maturation, by fluorescent immunohistochemistry in healthy skin (HS), CF, and SCC samples (n=3), in order to investigate LCs role in SCC oncogenesis.

Results: LCs numbers, detected by Langerin expression, were almost similar in HS and CF (9.00±1.5 and 9.67±1.95, respectively), while we found a significantly reduced LCs amount in all SCC samples examined (5.45±1.09; $p<0.01$). LC maturation was analysed by CD83 expression, the typical DC maturation marker. As expected, LCs did not express CD83 in HS and in CF as well, in the latter probably due to UV-mediated immunosuppression. On the contrary, we observed many CD83+ LCs in all SCC samples analysed (45.53±0.59; $p<0.001$).

Conclusion: Beside the little number of samples analysed, this pilot study showed that numerous LCs displayed a mature phenotype in SCC, suggesting a different pathogenesis related to melanoma, which deserves deepen investigations due to its high incidence world-wide.