

Skin dendritic cells increase in number during early response to wounding

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Among the cells that may participate to wound response and wound healing, coordinate with other cell types, dendritic cells have been little studied until now and the least so in humans. This issue has been addressed on samples of wounded and control skin taken at autopsy and analyzed by immunohistochemistry and morphometry. Langerhans cell number in the epidermis and the relative volume of MHC II+ cells in the dermis increased transiently upon wounding, with a significant peak in the first and the second half hour after wounding respectively. Dermal MHC II+ cells became part of a perivascular mononuclear cell infiltrate visible in the subpapillary dermis since between 30 and 60 after wounding and which contained also MC. Cells at the periphery of the infiltrates were also DC-SIGN+ and CD11c+, i.e. were well differentiated connective tissue dendritic cells. Mast cells underwent degranulation associated to an increase in number in the first hours after wounding. These modifications of dendritic cells and mast cells and the respective tissue course suggest that epidermal and dermal dendritic cells participate to the early response to wounding in humans, coordinately with mast cells and possibly stimulating the recruitment and activation of the cells involved in injury response at later time points.

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Key words

Avidin, cell infiltrate, immunohistochemistry, morphometry, UEA-I, Langerhans cells, DC-SIGN.