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PSORIASIS

THE LEVELS OF NEUTROPHILIC SERINE PROTEASES IN THE SKIN OF PATIENTS WITH LESIONAL PSORIASIS

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Background: Serine proteases extruded into extracellular space by neutrophilic granulocytes play an important role in the initiation and maintenance of chronic inflammation, at least in part through processing and activating multiple members of the extended IL-1 family of cytokines. Thus, neutrophil proteases represent potential targets for therapy of psoriasis.

Objective: Estimate the levels of serine proteases in the skin of psoriatic patients compared to healthy controls.

Materials and methods: Serine proteases of neutrophilic granulocytes (neutrophilic elastase, cathepsin G) were detected immunohistochemically in the biopsy skin samples of patients with lesional psoriasis (n=30). The area of positive staining for serine proteases was estimated.

Results: In patients with lesional psoriasis the level of neutrophilic elastase during progression (1,03%) and stationary (0,32%) periods of disease was higher, than in healthy controls 34,3-fold (0,03%) and 3,2-fold (0,10%) respectively. The area percentage of positive staining for cathepsin G was 9-fold higher in the skin of psoriatic patients during stationary period (0,90%) and 152-fold higher during progression period (15,22%). It was shown the increase in the level of neutrophilic elastase 16,9-fold and cathepsin G 3,2-fold in progressive period compared to the stationary one. The area of positive staining for neutrophilic elastase and cathepsin G in lesional skin exceeded the one in non-lesional skin 5,7-fold. Compared to controls, area of positive staining for the serine proteases in unaffected skin was 3,7-fold higher for neutrophilic elastase and 2-fold for cathepsin G and gave 0,11% and 0,20% respectively.





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Conclusion: The levels of serine proteases (cathepsin G and neutrophilic elastase) were found to be considerably higher in the skin of patients with lesional psoriasis during progressive and stationary periods than in healthy controls. The levels of cathepsin G and neutrophilic elastase were also higher in lesional skin compared to non-lesional skin of psoriatic patients.



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