

Pathogenic Mechanisms Shared between Psoriasis and Cardiovascular Disease

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Abstract :

Psoriasis is associated with an increased risk of cardiovascular disease, a hallmark of which is atherosclerosis. The objective of this study was to review the pertinent literature and highlight pathogenic mechanisms shared between psoriasis and atherosclerosis in an effort to advocate early therapeutic or preventive measures. We conducted a review of the current literature available from several biomedical search databases focusing on the developmental processes common between psoriasis and atherosclerosis. Our results revealed that the pathogenic mechanisms shared between the two diseases converged onto "inflammation" phenomenon. Within the lymph nodes, antigen-presenting cells activate naive T-cells to increase expression of LFA-1 following which activated T-cells migrate to blood vessel and adhere to endothelium. Extravasation occurs mediated by LFA-1 and ICAM-1 (or CD2 and LFA-3) and activated T-cells interact with dendritic cells (and macrophages and keratinocytes in psoriasis or smooth muscle cells in atherosclerosis). These cells further secrete chemokines and cytokines that contribute to the inflammatory environment, resulting in the formation of psoriatic plaque or atherosclerotic plaque. Additionally, some studies indicated clinical improvement in psoriasis condition with treatment of associated hyperlipidemia. In conclusion, therapeutic or preventive strategies that both reduce hyperlipidemia and suppress inflammation provide potentially useful approaches in the management of both diseases.

Key Word :

psoriasis, cardiovascular disease, atherosclerosis, shared pathogenic mechanism

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