

IMMUNOPHENOTYPIC DIFFERENCES OF PERIPHERAL T AND NK CELLS IN PATIENTS WITH PSORIASIS

R376

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ABSTRACT

Background: Psoriasis and psoriatic arthritis are chronic inflammatory diseases characterized by dysregulated innate and adaptive immunity. Altered cytotoxic activity of T and natural killer (NK) cells, regulated by the balance between activating (CD314/NKG2D) and inhibitory (CD94/NKG2A) receptors, plays a central role in disease progression. This study assesses the immunophenotype of peripheral lymphocytes in patients with psoriasis and psoriatic arthritis.

Methods: Thirty patients (18 with psoriasis, 12 with psoriatic arthritis) and 20 healthy donors were enrolled. The frequencies of B cells, NK cells, and T lymphocytes expressing CD314 and CD94 were analyzed by flow cytometry. Blood sampling was performed twice within a 21-day interval.

Results: Patients with psoriatic arthritis showed a significant reduction in CD19+ B cells (6.2% vs. 15.4% in controls, $p < 0.001$) and CD94 expression on CD3+ T cells (4.1% vs. 12.3%, $p < 0.05$). These patients also had elevated CD314 expression on CD3+56+ NK cells (26.7% vs. 7.3% in controls, $p < 0.02$). In psoriasis, a moderate increase in CD314+ NK cells and a mild decrease in CD94+ T cells were observed, with no major changes in the B cell compartment. The percentage of CD3+314+94+ double-positive T cells was reduced in psoriatic arthritis (2.1% vs. 6.8%, $p < 0.04$), indicating T cell exhaustion.

Conclusions: Patients with psoriatic arthritis exhibit more profound immunophenotypic alterations than those with psoriasis, including impaired B cell homeostasis and disrupted T/NK cell regulatory balance. CD314/CD94 profiling may serve as a prognostic marker and a target for immunomodulatory therapy in psoriasis.

BACKGROUND

Psoriasis and psoriatic arthritis are chronic inflammatory diseases characterized by dysregulated innate and adaptive immunity.

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METHODS

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- The frequencies of B cells, NK cells, and T lymphocytes expressing CD314 and CD94 were analyzed by flow cytometry.
- Blood sampling was performed twice within a 21-day interval.

RESULTS

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- These patients also had elevated CD314 expression on CD3+56+ NK cells (26.7% vs. 7.3% in controls, $p < 0.02$).
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RESULTS

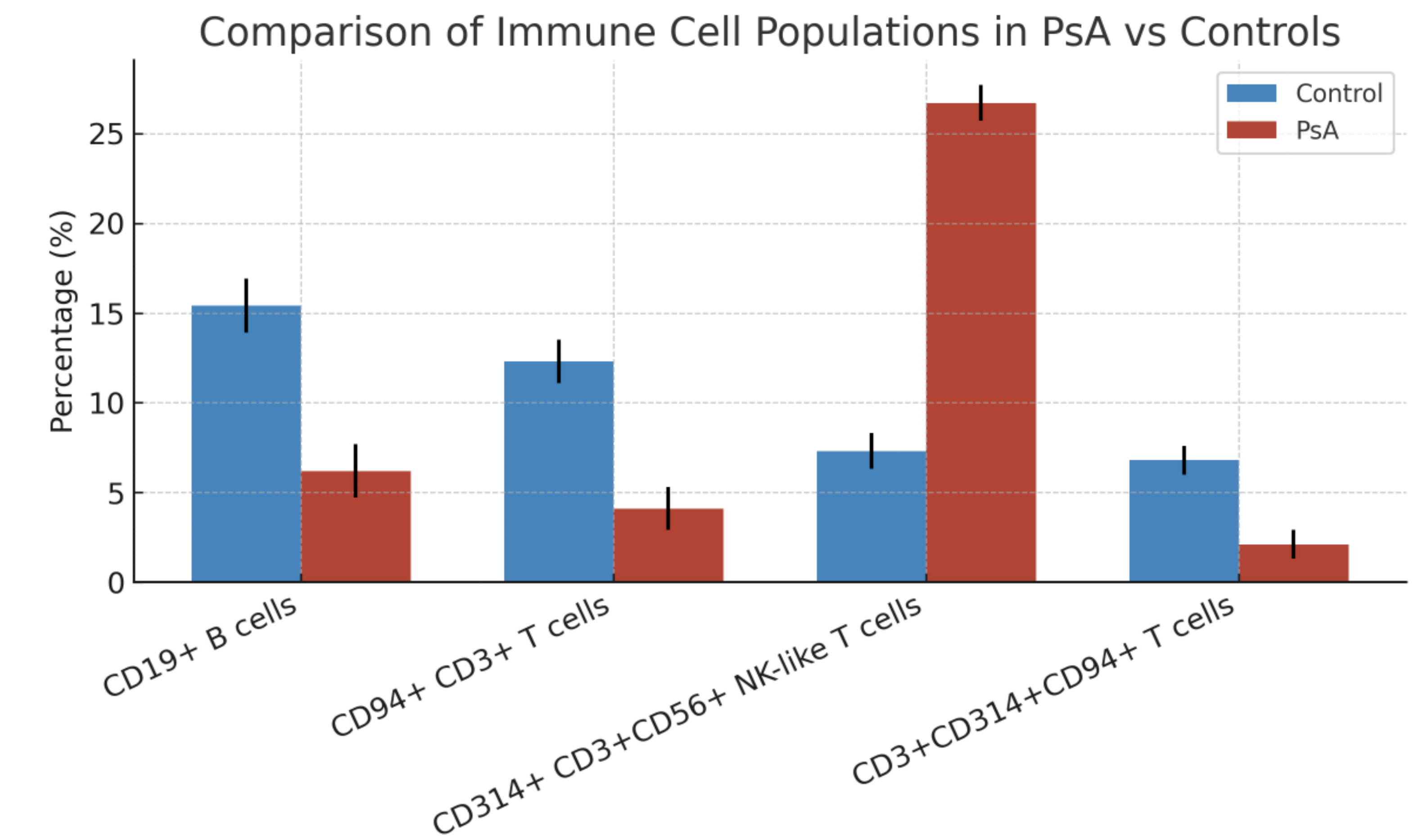


Fig. 1. The levels of Immune cells (%) in blood of the patients with Psoriatic Arthritis and the Control group

CONCLUSIONS

Patients with psoriatic arthritis exhibit more profound immunophenotypic alterations than those with psoriasis, including impaired B cell homeostasis and disrupted T/NK cell regulatory balance. CD314/CD94 profiling may serve as a prognostic marker and a target for immunomodulatory therapy in psoriasis.