


To the Editor:

The expression of receptors for IgE on human eosinophils remains controversial, as reviewed in a recent comprehensive editorial.1 Although human eosinophils from subjects infected by Schistosoma mansoni were recently reported to express different types of receptors for IgE (high-affinity Fc-ε receptor [Fc-εRI]; low-affinity Fc-ε receptor [Fc-εRII]),2 and Mac-2/CD11b,3 murine eosinophils purified from hepatic granulomas of mice affected by S. mansoni parasitosis were shown not to express IgE receptors either by flow cytometric or by reverse transcriptase polymerase chain reaction analyses.4 In this respect, further studies were encouraged by kita and Gleich1 to solve the existing controversies concerning the expression of Fc-εRII in human hypereosinophilic diseases.

We investigated the expression of CD23 antigen on peripheral blood eosinophils from 14 patients affected by vernal keratoconjunctivitis (VKC) with mild-to-moderate eosinophilia and from 10 matched normal controls. All patients showed skin reactivity to grass (n = 5), Dermatophagoides pteronyssimus (n = 5), Parietaria officinalis (n = 2), or multiple allergens (n = 2). In brief, 150 µL of unfraccionated peripheral blood were incubated for 30 minutes at 4°C with the following fluorescein isothiocyanate (FITC) or phycoerythrin (PE)-conjugated monoclonal antibodies (MoAbs): CD23 (EBVCS-5 clone, derived from BALB/c mice immunized with in vitro–transformed EBV cell line: IgG1), CD16 (NKp15 clone; IgG1; Becton Dickinson, Mountain View, CA), and CD9 (MM2/57 clone; IgG3; Ylem, Rome, Italy) or isotype-matched FITC- or PE-conjugated irrelevant MoAb as negative controls; erythrocytes were lysed by adding NH4Cl-EDTA (Ortho Diagnostic, Raritan, N.J.). Cells were subsequently fixed with 4% paraformaldehyde (F) and permeabilized with n-octyl-D-glucopyranoside (OG; Sigma, St Louis, MO) for 6 minutes at 20°C. The sequential fixation and permeabilization of unfraccionated peripheral blood allows the identification and electronic gating of eosinophils based on high side scatter signals, surface staining for CD9, and lack of CD16 expression, without altering surface antigen expression.6,8 After FOG treatment, cells were incubated with the EG2 MoAb (IgG1; Kabi Pharmacia Diagnostics, Uppsala, Sweden), recognizing the secretory form of eosinophil cationic protein (ECP) and were subsequently stained with FITC-conjugated F(ab')2 anti-mouse IgG. Unlabeled mouse IgG1 MoAb served as negative control. All samples were run through a FACScan flow cytometer (Becton Dickinson) equipped with an argon laser emitting at 488 nm. A minimum of 3,000 events were acquired in list mode using CellQuest software (Becton Dickinson). The purity of eosinophilic gate (>98%) was confirmed by sorting of CD9


Fc-εRII/CD23 Receptor on Circulating Human Eosinophils

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important role in the development and function of eosinophils. The CD23 antigen, also known as the high-affinity IgE receptor, is expressed on the surface of eosinophils and mediates IgE-dependent eosinophil activation and degranulation. The functional significance of elevated IgE and eosinophils in parasitic infections is not fully elucidated.

In conclusion, FcεRI/CD23 receptor can be detected by flow cytometry on eosinophils from a subgroup of patients affected by VKC, a severe ocular inflammatory disease with tissue and peripheral eosinophilic activation, although its relevance to IgE-mediated effector functions and disease pathophysiology remains to be elucidated.

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REFERENCES


to the Editor:

Natural Killer (NK) cells differentiate from immature thymocytes under appropriate conditions in vitro and in vivo, and share cytotoxic activity and some surface antigens with T cells, indicating a close relationship with T-lineage. Recently, NK cells were found to develop activity and some surface antigens with T cells, indicating a close relationship with T-lineage.1 Recently, NK cells were found to develop activity and some surface antigens with T cells, indicating a close relationship with T-lineage.1 Recently, NK cells were found to develop activity and some surface antigens with T cells, indicating a close relationship with T-lineage.1 Recently, NK cells were found to develop activity and some surface antigens with T cells, indicating a close relationship with T-lineage.1

Importance of T-Cell Receptor δ-Chain Gene Analysis on CD7+ and CD56+ Myeloid/Natural Killer Cell Precursor Acute Leukemia

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TCR δ rearrangement occurs earlier in T-cell differentiation than that of other TCR genes. So far, δ rearrangement with joining region (J) gene is recognized in only T-cell leukemia or lymphoma but not any other lineage malignancies.3,4 Recently, it was shown that DDJ rearrangements require activation of a T-cell specific enhancer in contrast to VD rearrangements.7 Differences in TCR δ gene rearrangement patterns in B-cell precursor acute lymphoblastic leukemia (ALL) and T-cell precursor ALL (T-ALL) can be explained by this finding.

We previously reported the high prevalence of DDJβ in 16 patients with CD7+ early T-ALL, which were negative for CD3/4/8/19/20, and myeloperoxidase (MPO).5 Fifteen patients (94%) had rearranged band(s) involving the J region of the TCR δ chain gene. Only DDJβ with no TCR β and γ rearrangement was shown in 9 patients. Four of 9 patients with DDJβ were negative for cyCD3ε. Therefore, it is suggested that DDJβ occurs at an early stage of T-cell differentiation and earlier than
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