

asthma (7%), 5% of whom handled egg powder and 12% raw egg. This suggests that raw egg has greater sensitization potential. The authors obtained positive skin tests to egg white and ovalbumin in 12 patients, to whole egg in 11, to egg yolk and ovalbumin in nine, and to lysozyme and ovomucoid in seven, a finding which may indicate the heterogeneity of the allergenic fractions involved.

It is thought that the major allergens found in egg are as follows: OA (45.0 kDa), OM (28.0 kDa), and OTr (77.7 kDa). Amino acid sequences have been described in these proteins, namely, Gal d 1, II, and III, respectively (4). The importance of Lsz (14.0 kDa) as a major allergen has been debated (5).

Key words: egg white; inhalation sensitization; nasal provocation test; occupational allergy; wheat flour.

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Peripheral blood CD8+ T-cell subsets in common variable immunodeficiency

COMMON variable immunodeficiency (CVI) is defined by low serum IgG and IgA levels, and is usually associated with low IgM levels. The apparent proximal cause is arrest of the B-cell differentiation pathway. CVI patients currently exhibit a normal number of T cells (1); nevertheless, the possibility of a subtle dysfunction of T cells or of other types of auxiliary cells required in the

initial maturational steps of the B-cell population cannot be excluded.

In this paper, we describe our findings on the CD8+ T-cell subsets (CD8+^{dim} and CD8+^{bright}) in five patients diagnosed with CVI.

■ Our study was performed on five patients diagnosed with CVI. At the moment of the blood extraction, all of them had neither infections nor other known diseases that could affect their immunologic status, and they were not undergoing pharmacologic treatment, exclusive of intravenous (i.v.) Ig replacement. A group of seven healthy volunteers was used as control group.

Flow cytometry was carried out in an Epics Elite® flow cytometer (Coulter Cytometry). Leukocytes were prepared from 10 ml EDTA blood collected from

patients and controls. Erythrocyte-specific lysing and leukocyte cell membrane stabilization

(fixation) was performed by the Q-Prep® quick sample preparation system (Coulter Cytometry). Then, 100 µl prepared sample was treated with 10 µl specific monoclonal antibody for 15 min at room temperature in the dark. Phycoerythrin-conjugated and fluorescein isothiocyanate (FITC)-conjugated specific monoclonal antibodies were used (Coulter Corporation): anti-CD4 labeled with phycoerythrin, anti-CD14 labeled with FITC, anti-CD3 labeled with phycoerythrin, anti-CD19 labeled with FITC, and anti-CD8 labeled with FITC. By light-scattering properties, lymphocytes were counted and separated from granulocytes and monocytes. The percentage of positive cells was calculated by subtracting background fluorescence produced by the negative control.

The nonparametric Mann-Whitney U test was used to compare the values observed in our CVI patients and in the control group. A difference of $P < 0.05$ was considered to be statistically significant.

■ Data of patients and controls are shown in Table 1. There was no significant difference in CD4+ T-cell percentage between patients and controls. In the CD8+ T-cell subsets, there was no significant difference in percentages of the CD8+^{dim} subset, but percentages of CD8+^{bright} T cells in patients diagnosed with CVI were statistically higher than in healthy controls ($P < 0.01$). These results were reflected in the ratios between such T-cell subsets: the CD4+/CD8+ and CD4+/CD8+^{bright} ratios were significantly lower in patients than in healthy controls ($P < 0.01$, both).

Patients with CVI have increased percentage of CD8+^{bright}.

Table 1 Lymphocyte subpopulations in patients and controls

	Patients	Controls	Significance
Subpopulations*			
CD4	36.26 ± 2.22	43.44 ± 2.25	NS
CD8 <i>total</i>	50.24 ± 3.73	23.40 ± 1.85	<i>P</i> < 0.01
CD8 ^{dim}	4.56 ± 0.76	6.54 ± 1.29	NS
CD8 ^{bright}	45.66 ± 3.64	16.27 ± 1.36	<i>P</i> < 0.01
Ratios			
CD4/CD8	0.74 ± 0.09	1.80 ± 0.15	<i>P</i> < 0.01
CD4/CD8 ^{dim}	8.91 ± 0.46	7.45 ± 1.16	NS
CD4/CD8 ^{bright}	0.83 ± 0.11	2.83 ± 0.30	<i>P</i> < 0.01

* Percentages within lymphocyte population

Values are means ± SEM

NS: not significant

Defects in T-cell function are known to be present in patients with CVI, but the nature of these defects has still to be revealed. Loss of T-cell help and an excess of T-cell suppression (2) have both been documented. Pandolfi et al. (3), showed profound alteration in the lymphocyte subpopulations in CVI patients, including increased CD8⁺ cells, severe defect of CD4⁺ cells, and reduction of CD19⁺ cells. The increased proportion of CD8⁺ cells in CVI patients has been putatively associated with a possible veto effect of these cells on Ig production (2).

The use of flow cytometry allows the differentiation of two CD8⁺ subpopulations: one of high affinity (with a larger number of receptors: CD8⁺^{bright}), and another of low affinity (with a lower number of receptors: CD8⁺^{dim}) (4). Such subpopulations can be distinguished by staining intensity with anti-CD8 monoclonal antibodies. CD8⁺^{dim} and CD8⁺^{bright} subsets further appear to represent two distinct populations on the basis of functional analyses. The CD8⁺^{dim} subset would be more representative of cytotoxic cells, having cell markers of the natural-killer type (5); CD8⁺^{bright} cells contain a CD3⁺ subset with suppressive effect on antibody production and MHC-restricted cytolytic activity. Subsequently, it has been suggested that the true helper suppressor ratio is the CD4⁺ CD8⁺^{bright} ratio (4).

Our data show that CVI patients have an increased percentage of CD8⁺ cells compared to healthy volunteers, and that is mainly due to the increase in the CD8⁺^{bright}-cell percentage. Such alterations lead to the decrease in the CD4⁺ CD8⁺^{bright} ratio, and that change could suggest a decrease in the helper suppressor ratio. Nevertheless, caution should be used in extrapolating functional activities of T-cell subpopulations from the characterization of surface markers. Functional tests are required to identify such altera-

tions of CD8⁺ T-cell subsets as a possible pathogenetic mechanism. Therefore, the results should be considered preliminary.

Key words: common variable immunodeficiency; CD8; flow cytometry.

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Anaphylactoid reaction in relation to sialolithiasis

SOME anaphylactoid reactions are presumably associated with immunocomplex formation and subsequent complement activation.

We report the case of a 46-year-old man who presented eight episodes of severe anaphylaxis during a 3-year period, exclusively in relation to acute episodes of sialolithiasis. He had pruritus and swelling of the lips and tongue, dysphagia, dysphonia, and progressive upper respiratory difficulty, as well as intense facial and palpebral edema. He also had hypotension and vomiting. The symptoms remitted after administration of epinephrine, corticosteroids, and fluid therapy in the emergency unit. The gland was removed in September 1994, and the patient was asymptomatic at last follow-up.

We performed skin prick tests with common inhalants of our environment and several foods (eggs, milk, nuts, and shellfish; C.B.F. Leti,

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