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Prevalence of Selective IgA Deficiency in Spain: More Than We Thought

To the Editor:

Selective IgA deficiency (sIgA-ID) is the most common well-defined primary immunodeficiency disorder, with a frequency reported to range between 1:328 in American blood donors[1] and 1:18,500 in Japanese blood donors.[2] We report here an epidemiologic study with a frequency of 0.61% (1:163), which is the highest prevalence of selective IgA deficiency reported in a healthy population.

In 1993, demographic information and serum samples were collected for an epidemiologic study of infectious diseases and cardiovascular risk factors among scholars of Cáceres province (Western Spain). One of the variables determined was the concentration of Igs (IgG, IgA, and IgM). Of a population of 80,745 individuals between 2 and 16 years of age, 1,856 children were selected with stratified random sampling, based on age, gender, and geographic location. All participants were volunteers responding to an application in the schools and informed consent was obtained. Full classrooms were selected. The study was completed with 100 adult blood donors (50 women and 50 men). IgA were quantified by rate nephelometry (Array 360; Beckman Instruments, Inc, Brea, CA). The limit of detection of serum IgA is 0.0667 g/L. The Beckman IgA Test is standardized to the International Federation of Clinical Chemistry (IFCC) International Reference Preparation for Plasma Proteins. No detectable IgA was confirmed by radial immunodiffusion (Kallestad Endoplate; Sanofi Diagnostics Pasteur, Chaska, MN). Twelve of 1,956 samples had undetectable IgA (0.61%; 95% confidence interval, 0.26 to 0.95). No isolated absence of IgG or IgM was found. No differences were found in age, sex, or geographical area. IgA-deficient sera showed IgG levels much higher than those of the normal population (Table 1). The data could indicate a compensation for the IgA deficiency by serum IgG but not serum IgM.

Table 1. IgA Deficiency: Sex and Age Distribution, Levels of IgG and IgM

Case No.	Sex/Age (yr)	IgG (mg/dL)	IgA (mg/dL)	IgM (mg/dL)
1	F/4	883	<6.6	117
2	M/4	1,440	<6.6	85.6
3	F/5	1,130	<6.6	117
4	M/11	2,190	<6.6	124
5	M/11	945	<6.6	157
6	M/13	1,190	<6.6	121
7	F/13	2,090	<6.6	150
8	F/14	1,230	<6.6	92
9	M/15	1,860	<6.6	124
10	F/16	1,940	<6.6	260
11	F/16	1,470	<6.6	150
12	F/>18	1,670	<6.6	126

Our results suggest that the prevalence of sIgA-ID is underestimated in the Caucasian population. It could be due to the bias in prevalence studies with volunteer blood donors because of pathology associated to sIgA-ID: infections in the respiratory and gastrointestinal tracts or autoimmune and atopic diseases.[3] On the other hand, sIgA-ID could be almost asymtomatic in a lot of cases and underdiagnosed in the general population.[4] This study was performed using a pediatric sample and a transient sIgA-ID could be possible (although normally this is described in children less than 2 years of age). These data could be of interest in the prevention of anaphylactic reactions after intravenous administration of blood products containing IgA and in the avoidance of complications of this disease. Lack of awareness of the real prevalence of patients with sIgA-ID has resulted in underdiagnosis and diagnostic delay and inadequate management of their complications.

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