

21 Ethnic and Geographic Variation in Antiphospholipid Syndrome

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Introduction

During the past 20 years, studies of antiphospholipid antibodies (aPL) and antiphospholipid syndrome (APS) have been done in many countries and ethnogeographic groups. To date, the large majority of these studies reported data on systemic lupus erythematosus (SLE) populations, and this review largely focuses on the SLE studies. Comparisons among such studies are of interest because they may help to clarify the causes of APS, analogous to the situation in SLE, in which ethnic and geographic factors are clearly related to prevalence and severity of the disease.

Anticardiolipin Antibodies (aCL) Frequency in SLE

Routine screening for aPL now occurs in SLE clinics because of the strong experimental and clinical evidence of the procoagulant nature of aPL and the demonstrations that anticoagulation provides effective secondary prophylaxis of thrombosis or pregnancy loss in patients with aPL. Studies to date have mainly described the prevalence of aCL among populations of SLE patients and have attempted to estimate the prevalence of secondary APS in SLE, mainly using classification criteria for APS that predated the 1999 international (Sapporo) criteria [1]. Relatively few studies listed in Table 21.1 included lupus anticoagulant (LA) in the assay methods for aPL, probably because tests for LA are more technically demanding and require platelet-poor plasma. The studies listed in Table 21.1 thus mainly provide a point prevalence of aCL in various populations.

It is evident from Table 21.1 that aCL occur in all SLE populations studied, but with highly variable point prevalence. It is likely that assay methods [20] and patient selection contribute to this variability in prevalence as further discussed below, but some variations are of interest. IgG aCL prevalence ranged from 2% in an Afro-Caribbean clinic population to 51% in a report from India. Of even greater interest was the fact that among Afro-Caribbean (Jamaican) SLE patients, the prevalence of IgA aCL was relatively high (21%), but it was not clear whether SLE disease parameters, including disease inactivity, was related to the low frequency of IgG aCL. In the same study [4], using the same assay methods, IgG aCL was seen

Table 21.1. Prevalence and isotype distribution of antinuclear and lupus anticoagulant in different populations of SLE patients.

Reference	Ethnicity or country (n)	Any aCL isotype (%)	IgG aCL (%)	IgM aCL (%)	IgA aCL (%)	LA (%)	Correlation with thrombosis and/or fetal loss
Cucurull et al [2]	Colombian ^a (160)	25	18	13	15	NA	Yes
Cucurull et al [2]	Spaniard ^a (160)	34	27	15	16	NA	Yes
Cucurull et al [3]	African-American ^a (100)	33	18	7	24	NA	Yes
Molina et al [4]	Afro-Caribbean ^a (136)	21	2	2	21	NA	No
Aguirre et al [5]	Chilean ^a (129)	30	16	14	8	NA	Yes
Alarcon et al [6]	Hispanic ^b (70)	7*	NA	NA	NA	NA	NA
Alarcon et al [6]	African-American ^b (88)	11*	NA	NA	NA	NA	NA
Alarcon et al [6]	Caucasian ^b (71)	5*	NA	NA	NA	NA	NA
Jones et al [7]	Malaysia ^c (200)	16.5	13	2.5	NA	NA	No
Sebastiani et al [8]	Europe ^d (574)	NA	23	14	14	NA	Yes
Sebastiani et al [9]	Italy (64)	44	44	9	NA	NA	Yes
Gourley et al [10]	Ireland (95)	44	31	28	NA	NA	Yes
Sturfelt et al [11]	Sweden (59)	54	47	13	NA	NA	No
Alarcon-Segovia et al [12]	Mexico (500)	53	39	33	16	NA	Yes
Shrivastava et al [13]	India (76)	51	51	7	5	NA	No
Saluja et al [14]	India ^e (76)	27	27	1	NA	NA	Yes
Saxena et al [15]	India ^e (70)	19	NA	NA	NA	16	Yes
Wong et al [16]	China (91)	46	44	1	4	11	No
Ninomiya et al [17]	Japan (349)	35	28	NA	NA	27	Yes
Tsutsumi et al [18]	Japan (308)	NA	12	4	NA	8	Yes
Chahade et al [19]	Brazilian (54)	20	20	5.5	NA	17	NA

^aIn-house ELISA test done at Louisiana State University Health Sciences Center in New Orleans.^bLUMINA Study Group: Lupus in Minority populations: Nature vs Nurture. From University of Alabama at Birmingham, University of Texas-Houston Health Science Center, and University of Texas Medical Branch at Galveston.^cPopulation comprised 164 Chinese, 26 Malay, and 10 Indian. No differences were found in the prevalence of raised aCL between the 3 ethnic groups.^dPatients from 7 European countries: 97.7% Caucasians, 3.3% other races.^eBoth studies from All India Institute of Medical Sciences, New Delhi.

*IgG and IgM aCL and/or LA.

NA = data not available.