

B₂GPI ENHANCES IgG ANTI-PHOSPHATIDYLSERINE (aPS) BINDING BETTER THAN ANTI-CARDIOLIPIN (aCL) AND CORRELATES WITH CLINICAL MANIFESTATIONS OF ANTIPHOSPHOLIPID SYNDROME IN SLE PATIENTS. Kristina J. Keedy and Luis R Lopez.
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The optimal binding of "autoimmune" antiphospholipid antibodies requires a serum cofactor. This enhanced antibody binding (cofactor effect) may be relevant to the thrombosis seen in patients with antiphospholipid syndrome. We first determined B₂GPI cofactor effect of IgG aCL and aPS antibodies in 33 antiphospholipid positive serum samples from patients with various diseases including syphilis and SLE. We then examined the correlation of cofactor effect with clinical history of thrombosis, thrombocytopenia and recurrent abortion in 28 selected female SLE patients. Twelve of the selected SLE patients had a history of thrombosis (group I), 6 a history of thrombocytopenia (group II), and 10 without a history of either were used as controls (group III). 96-microwell plates were coated with CL or PS in the absence of B₂GPI. Serum samples were serially diluted in sample diluent (PBS) free of B₂GPI. For determination of cofactor effect, purified human B₂GPI (15 ug/ml) was added to the sample diluent. In the presence of B₂GPI, an increase of > 20% in the ODs (450nm) of 3 dilutions was considered positive. Six of 33 (18%) serum samples -24% if syphilis are excluded- showed cofactor effect (up to 220%) when tested for aPS. Only one showed cofactor effect for both aCL and aPS antibodies. Four of these samples were from SLE patients. All syphilis samples reacted only to CL without cofactor effect. Weak B₂GPI enhanced binding (<20%) was seen in some selected SLE samples when tested for aCL antibodies. In contrast, 6 of 12 (50%) of SLE patients with history of thrombosis (group I) showed cofactor effect when tested for aPS antibodies (up to 180%). Four (66%) had history of recurrent abortion. Mean serum levels for both IgG aPS and aCL antibodies (67 aPS, 52 aCL units) of the 6 cofactor effect positive patients were higher than the mean value for the entire group I (42 aPS, 32 aCL units). None of the patients in group II and only one of 10 (10%) in group III showed B₂GPI cofactor effect. This patient had borderline serum aPS level and was the only one with history of abortion. These results further support the physiologic role and clinical relevance of IgG aPS antibodies.

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