Anti-β_2-Glycoprotein I Autoantibody Expression as a Potential Biomarker for Strokes in Patients with Anti-Phospholipid Syndrome

Husham Bayazed & Zainalabideen A. Abdullah
University of Zakho / Kurdistan

Key Words: Stroke, Anti-Phospholipid Syndrome, Anti-β_2-Glycoprotein I Autoantibody

I- Abstract body

This study sought to determine the frequency rates of anti-cardiolipin (aCL) dependent on the presence of β_2-GPI, anti-β_2-glycoprotein I (aβ_2-GPI), and anti-phosphatidyl serine (aPS) IgG autoantibodies among stroke patients, and thus demonstrate the importance of testing for aβ_2-GPI autoantibodies. All cases were under 50 years-of-age and had no recognizable risk factors.

Using ELISA to evaluate the presence of IgG isotype of aCL, aβ_2-GPI, and aPS autoantibodies in their blood, the results indicated that the frequency of aβ_2-GPI was 14/50 (28%), aCL was 11/50 (22%), and aPS was 9/50 (18%) among stroke patients. In contrast, aCL was detected in 2/30 (6.7%) of control subjects; each of the other anti-phospholipid antibodies (APLA) was never observed. Of all the aβ_2-GPI$^+$ cases, the incidence of stroke patients having the combined profile of aβ_2-GPI + aCL was 11/14 (78.6%) and of aβ_2-GPI + aPS was 9/14 (64.3%). Only 2/14 (14.3%) of these aβ_2-GPI$^+$ patients also expressed aCL in the absence of aPS. The frequency of patients expressing all three markers was only 9/14 (64.3 %). In none of the APS/stroke patients were aCL or aPS expressed in the absence of the aβ_2-GPI. Conversely, aβ_2-GPI as a sole marker was seen in 3/14 (21.4%) of these patients (i.e., in absence of either other marker).

It can be concluded from these studies that the among the three major forms of APLA examined, the presence of aβ_2-GPI IgG autoantibodies appeared to correlate best with stroke in patients who were concurrently suffering APS.

II- Refernces

1- Brey R. L., Abbott R. D., Sharp D. S., Ross G. W., Stallworth C. L., Kittner S. J. β_2-Glycoprotein I-dependent anti-cardiolipin antibodies and risk of ischemia stroke and myocardial infarction: The Honolulu heart program. Stroke 2001; 32: 1701–1706

2- Brey R. L., Stallworth C. L., McGlasson D. L., Wozniak M. A., Wityk R. J., Stern B. J., Sloan M. A., Sherwin R., Price T. R., Macko R. F., Johnson C. J., Earley C. J., Buchholz D. W., Hebel J. R., Kittner S. J. Anti-phospholipid antibodies and stroke in young women. Stroke 2002; 33: 2396–2400.

3- de Laat H. B., Derksen R. H. W. M., de Groot P. H. β_2-Glycoprotein I, the playmaker of the anti-phospholipid syndrome. Clin. Immunol. 2004; 112: 161–168.

4- Hanly J. G. Antiphospholipid syndrome: An overview. CMAJ. 2003; 24: 168–180

Photograph



III- Biography

Prof Dr. Husham Bayazed has completed his PhD from University of Mosul, College of Medicine. He is now Consultant Immunologist at Scientific Research Center, University of Zakho / Kurdistan Region.

He is specialist in clinical Immunology with interest in Neuro- immunology and has published more than 25 papers in reputed journals and has been serving as scientific reviewers of many local and international medical journals. In addition of being Fellowship of ISC, Infection, Cancer and Immunology Advisory Board Member (EUROMDnet) (Belgium), Membership of World Stroke Organization, Membership of Metabolomics (USA), and Membership of American Association of Science & Technology.

IV- Presenting Author Details

Full Name: Prof Med. Dr. Husham Bayazed

Contact number:009647504676544

Twitter account: @HISHAMALI

Linked In account: Hisham Bayazed

Session name/ number: Brain Disorders and Neuroimmune Disorders

Category: (Oral presentation)

Passport Number: A13487282