

**Anti- $\beta$ 2-glycoprotein I autoantibody expression as a potential biomarker for strokes in patients with anti-phospholipid syndrome**Husham Bayazed<sup>1</sup> and Abdullah A Z<sup>2</sup><sup>1</sup>University of Zakho, Iraq<sup>2</sup>University of Mosul, Iraq

Anti-phospholipid syndrome (APS) is an autoimmune disease. Cerebral ischemia associated with APS occurs at a younger age than typical atherothrombotic cerebrovascular disease, is often recurrent and is associated with high positive IgG anti-phospholipid (GPL) unit levels. This study sought to determine the frequency rates of anti-cardiolipin (aCL) dependent on the presence of  $\beta$ 2-GPI, anti- $\beta$ 2-glycoprotein I ( $\alpha\beta$ 2-GPI) and anti-phosphatidyl serine (aPS) IgG autoantibodies among stroke patients and thus demonstrate the importance of testing for  $\alpha\beta$ 2-GPI autoantibodies. Stroke patients and control subjects recruited from Mosul, Erbil and Dohuk provinces in Northern Iraq were evaluated. All cases were under 50 years-of-age and had no recognizable risk factors. ELISA was used to evaluate the presence of IgG isotype of aCL,  $\alpha\beta$ 2-GPI, and aPS autoantibodies in their blood, the results indicated that the frequency of  $\alpha\beta$ 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  $\alpha\beta$ 2-GPI+ cases, the incidence of stroke patients having the combined profile of  $\alpha\beta$ 2-GPI+aCL was 11/14 (78.6%) and of  $\alpha\beta$ 2-GPI+aPS was 9/14 (64.3%) only 2/14 (14.3%) of these  $\alpha\beta$ 2-GPI+ patients 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  $\alpha\beta$ 2-GPI. Conversely, IgG  $\alpha\beta$ 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 among the three major forms of APLA examined, the presence of IgG  $\alpha\beta$ 2-GPI autoantibodies appeared to correlate best with stroke in patients who were concurrently suffering from APS.

**Recent Publications**

1. Husham Bayazed (2012) Concentration levels of IL-10 and TNF $\alpha$  cytokines in patients with human papilloma virus (HPV) DNA+ and DNA- cervical lesions. *Journal of Immunotoxicology (USA)*. 2012; 9: 168-172.
2. Husham Bayazed (2014) Assessment of Chlorine Resistant Bacteria and their Susceptibility to Antibiotics from Water Distribution System in Duhok Province/ Kurdistan. *Journal of Applied Biology and Biotechnology vol.2 (06)*, pp, 010-013; Nov-Dec, 2014.
3. Husham Bayazed (2007) The Role of Antiphospholipid Autoantibodies Syndrome in Cerebrovascular Diseases. *Qatar Medical Journal* 2007; 16(2): 41-46.
4. Husham Bayazed (2014) Detection of human papillomavirus DNA in patients with different cervical lesions in Kurdistan Region, Iraq. *European Journal of Cancer*, 48: 4s-5s 2014.

**Biography**

Husham Bayazed has completed his PhD at University of Mosul, College of Medicine. He is now a Consultant at the Scientific Research Center, University of Zakho/Kurdistan Region, Iraq. He is a Specialist and Consultant in Microbiology and Immunology and has published more than 25 papers in reputed journals and has been serving as a Scientific Reviewer for many local and international medical journals. In addition, he has a Fellowship of ISC, Infection, Cancer, Immunology Advisory Board Member (EUROMDnet) Belgium, Membership of World Stroke Organization, Membership of Metabolomics, USA, and Membership of American Association of Science & Technology with more than 20 participations in international scientific meetings all over the world.

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