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**Irina Zdravkova,** Desislava Bozhkova, Yovko Ronchev

Medical University of Plovdiv/ University Hospital"Kaspela"/Plovdiv/Bulgaria

## Hypothetical Pathogenetic Model of Membranous Nephropathy

**Abstract:** Membranous nephropathy (MN) is a disease with an etiology and pathogenesis that are still not fully understood, despite the discovery of over 10 new antigens. Antibodies in serum against them are not always detected, and they can also be positive not only in primary (pMN) but also in secondary membranous nephropathy (sMN). PLA2R still remains the most common antigen corresponding to pMN, which is also episodically detected in cases of sMN. Data of 102 patients with MN and their comorbidities are evaluated in order to establish correlations and it was found that chronic diseases of the thyroid gland, liver and lung are the most common comorbidities found. The patients are separated into three groups in accordance with their immunological and pathomorphological findings, as follows: pMN, idiopathic MN (iMN) and sMN. From another study of 79 patients with MN, it was found that the relative share of patients with diabetes is significantly higher in the iMN. A logical question arose: What do these diseases and MN have in common? The answer is: PLA2R in pMN and chronic subepithelial inflammation in iMN, influenced by the presence of diabetes mellitus and NSAID intake. PLA2R gene is located on Chromosome 2 and the cell type enrichment of the selected gene is found in podocytes; thyroid glandular cells, cholangiocytes and NK cells (lungs). Chronic inflammation at sites that express PLA2R can lead to the formation of antibodies against PLA2R; these antibodies are deposited in the subepithelial space. However, this alone is insufficient, we need conformational changes in the structure of PLA2R in kidney and further epitope spreading in order to establish MN as a new distinct disease entity.

**Keywords:** Pathogenesis; Epitope spreading; PLA2R; IgG glycosylation

**Biography:** Born in Ukraine, Odesa, where she lived for more than 10 years and continued her high school education in Bulgaria until 2000. In 2001 began to study medicine in Romania, Cluj-Napoca at Medical University" Iuliu Hatcieganu", in Romanian language until 2004. In 2004 continued her medical education at the Medical University of Plovdiv. Graduated from MU of Plovdiv in 2008. Worked in emergency medical center and as a General Practitioner. From 2009 until now has been working at Nephrology Clinic in University Hospital "Kaspela" in Plovdiv. In 2018 acquired Nephrology specialty. Since 2015 works as an assistant at the Department of Propaedeutics of Internal diseases, Medical Faculty, Medical University of Plovdiv, currently holding the position of chief assistant. For four years has an outpatient practice at the 2nd Diagnostic Consultative Center in Plovdiv. In September 2022 successfully defended her dissertation, entitled: Specific Serum and Deposited Autoantibodies and Immunoglobulins in Membranous Nephropathy and their Significance for the Therapeutic Approach. Member of the Club of Young Scientists of the Union of Scientists in Bulgaria.