Hypertension and Diabetes: An Old Association to be Aware

Hypertension is a major risk factor for cardiovascular disease and its prevalence is twice more than that of diabetes mellitus [1]. We are analysing in this issue the associated risk factors in Latin America. It is of particular importance since the high prevalence of both diseases is increasing. In addition, insufficient health economic resources and a reduced level of education affect the course of both diseases. Common mechanisms have been proposed to explain the association between diabetes and hypertension, such as athero-sclerosis, endothelial dysfunction, vascular inflammation and oxidative stress. The up-regulation of renin angiotensin aldosterone system and activation of the immune system are also involved as a vicious circle [2].

In the third article by Lopez-Jaramillo et al., a review on epidemiology of hypertension and diabetes mellitus has been done, as they are two major factors that contribute to cardiovascular disease [3].

As a searching mechanism of developing heart ischemia and heart failure, dynamic changes determined by induced myocardial depression followed by an ischemia-reperfusion stage provided data to calculated Wall Thickening Fraction and Augmentation indices [4]. Further research, including arterial pressure waves obtained non-invasively in ischemic patients during acute heart failure (treated with IABP or not) is needed to confirm the usefulness of these results [2, 5]. Epigenetic influence also has a major contribution to the development of high risk of hypertension and diabetes. Central Obesity, as a chronic low inflammation disease, is a cause of non-alcohol liver disease with increased cardiovascular risk, high mortality risk and the first cause of liver transplantation [6]. Losing weight is one of the first therapies implemented on NALD, and metabolic surgery has been demonstrated to decrease cardiovascular disease. Chronic Hyperglycaemia and insulin resistance play an important role in Diabetic nephropathy, one of the most frequent complications to develop end-stage renal disease (ESRD). In this regard, pulse wave velocity, glomerular filtration rate and albumin/creatinine ratio as markers of coronary heart disease were analysed in this issue [7, 8].

Since we have new drugs to treat diabetic patients who demonstrated decrease cardiovascular risk and disease, known as sodium glucose cotransporter 2 (SGLT2) inhibitors and glucagon like peptide 1 agonist (GLP1) that change the sequence of diabetic algorithm or international guidelines. One of the most relevant complications of diabetic patients is heart failure, first cause of hospitalization, most of the heart failures result from preserved ejection fraction (HFpEF). iSGLT2 has a beneficial effect on these patients, reducing the risk of worsening heart failure or death from cardiovascular causes [9].

Recommendations from guidelines of treatment of hypertension in diabetic patients are still based on expert opinion and the clinician must choose the appropriate plan for individual patients in terms to avoid micro and macro vascular diabetic complications [10]. It is crucial to individualized objectives depending on age, duration of diabetes, hypoglycaemia or chronic diabetic complications based on their cognitive status, socio-economic support and life expectancy.

This issue with the problematic association between hypertension and diabetes and comorbidities will emphasise the necessity of treating our patients in an interdisciplinary manner to get better results and take patients to the target of getting better.

REFERENCES


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