EDITORIAL

Diabetes Mellitus: An Update

It is well established that diabetes mellitus is actually a multisystem disease responsible for a great burden of morbidity and mortality globally since it causes several cardiovascular complications; macro as well as micro-vascular [1]. This attitude is mainly attributed to the fact that these patients show a high risk for the development of atherosclerotic lesions for various causes such as hyperglycaemia, dyslipidemia and insulin resistance, resulting in impaired platelet function, endothelial, vascular smooth muscle cell dysfunction and abnormal coagulation [2]. Therefore it is easily assumed that individualized treatment strategy is needed and for that cause stratification of cardiovascular risk among these patients has become a necessity. As a result, several models have been developed over the last decades which highlighted specific risk factors for developing cardiovascular disease including age more than 40 years, male gender, history of relative suffering from premature CHD, blood pressure and high LDL levels, presence of microalbuminuria or obstructive sleep apnea [3].

Taking all the above mentioned into account, researchers concluded that efficient management of cardiovascular risk is in fact a critical component of diabetes care. Kyriakos *et al*. reviewed clinical trials and concluded that this medication is showed to be effective in lowering the risk of cardiovascular disease without burden the renal function [4]. In addition, a new group of hypoglycemic drugs has been used to treat diabetes type 2.; the active sodium glucose co-transporter (SGLT2) or SGLT2 inhibitors. It has been shown that besides the treatment of diabetes, this drug class is responsible for the mildness of the cardiovascular events shown in patients with diabetes type 2 [5]. However, there are controversial data regarding the existence of a class effect [6].

Many scientific committees strongly recommend the incretin-based therapies, dipeptidyl peptidase 4 (DPP-4) inhibitors and glucagon- like peptide 1 (GLP-1) receptor agonists, as an option for add-on therapy to first-line therapy with metformin or other antidiabetic medications [7, 8].

Finally, we should not forget to mention a new pivotal intervention in the effective management of diabetes mellitus and its severe complications. Bariatric surgery including procedures like Roux-en-Y Gastric Bypass, Sleeve Gastrectomy, Laparoscopic Adjustable Gastric Banding as it is summarized by Damaskos et al. [9,10]. This approach improves clinically appropriate endpoints that include the remission of various comorbidities and the lowering of cardiovascular risks together with serious cardiovascular events but the emphasis should be given on appropriate patient selection with a long-term period of follow-up [11].

In conclusion, diabetes mellitus is undoubtedly a complex disease. The purpose of this thematic issue is to highlight the new therapeutic approaches like incretin-based therapies, the SGLT2 inhibitors and the bariatric procedures.

REFERENCES

[1] Bertoluci M , Rocha V. Cardiovascular risk assessment in patients with diabetes. Diabetol Metab Syndr 2017**;** 9: 25. https://doi.org/10.1186/s13098-017-0225-1

[2] Mansour, AA.,Douri, FA. Diabetes in Iraq: Facing the epidemic. A systematic Review. Wulfernia 2015; 22(3); 258-273.

[3] Ferket BS, Colkesen EB, Visser JJ, *et al*. Systematic review of guidelines on cardiovascular risk assessment: which recommendations should clinicians follow for a cardiovascular health check? Arch Intern Med 2010; 170: 27-40. https://doi.org/10.1001/archinternmed.2009.434 PMID: 20065196

[4] Kyriakos G, Quiles-Sanchez, LV, Garmpi, *et al.* Cardiovascular and renal outcomes of incretin-based therapies: A review of recent clinical trials. Curr Cardiol Rev 2020; 16(4): 253-7. https://doi.org/10.2174/1573403X15666190603111056 PMID: 31161994

[5] Chao EC, Henry RR. SGLT2 inhibition--a novel strategy for diabetes treatment. Nat Rev Drug Discov 2010; 9(7): 551-9. https://doi.org/10.1038/nrd3180 PMID: 20508640

[6] Kyriakos G, Quiles-Sanchez LV, Garmpi A, *et al.* SGLT2 inhibitors and cardiovascular outcomes: Do they differ or there is a class effect? New insights from the EMPA-REG OUTCOME trial and the CVD-REAL study. Curr Cardiol Rev 2020; 16(4): 258-265. http://dx.doi.org/10.2174/1573403X15666190730094215 PMID: 31362691

[7] Howse PM, Chibrikova LN, Twells LK, Barrett BJ, Gamble JM. Safety and efficacy of incretin-based therapies in patients with type 2 diabetes mellitus and CKD: A systematic review and meta-analysis. Am J Kidney Dis 2016; 68(5): 733-42. http://dx.doi.org/10.1053/j.ajkd.2016.06.014 PMID: 27528374

[8] Damaskos C, Garmpis N, Kollia P, *et al.* Assessing cardiovascular risk in patients with diabetes: An update. Curr Cardiol Rev 2020; 16(4): 266-74. https://doi.org/10.2174/1573403X15666191111123622 PMID: 31713488

[9] Dajani A, AbuHammour A. Treatment of nonalcoholic fatty liver disease: Where do we stand? An overview. Saudi J Gastroenterol 2016; 22(2): 91-105. PMID: 26997214

[10] Damaskos C, Litos A, Dimitroulis D, *et al.* Cardiovascular effects of metabolic surgery on type 2 diabetes. Curr Cardiol Rev 2020; 16(4): 275-84. https://doi.org/10.2174/1573403X16666200220120226 PMID: 32077829

[11] Eight-year weight losses with an intensive lifestyle intervention: The look AHEAD study. Obesity (Silver Spring) 2014; 22(1): 5-13. http://dx.doi.org/10.1002/oby.20662 PMID: 24307184

1573-403X/20