عنوان مقاله:

An overview of glucagon-like peptide-1 receptor agonists for the treatment of metabolic syndrome: A drug repositioning

محل انتشار:

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تعداد صفحات اصل مقاله: 13

نویسندگان:

Maryam Rameshrad - *Natural Products and Medicinal Plants Research Center, North Khorasan University of Medical Sciences, Bojnurd, Iran*

Bibi Marjan Razavi - *Targeted Drug Delivery Research Center, Pharmaceutical Technology Institute, Mashhad University of Medical Sciences, Mashhad, Iran|Department of Pharmacodynamics and Toxicology, School of Pharmacy, Mashhad University of Medical Sciences, Mashhad,*

Jean-Daniel Lalau - *Université de Picardie Jules Verne, Department of Endocrinology, Amiens, France*

Marc E. De Broe - *Universiteit Antwerpen, Department of Biomedical Sciences, Antwerpen, Belgium*

خلاصه مقاله:

Metabolic syndrome (MetS) is a clustering of several cardiovascular risk factors that include: obesity, dyslipidemia, hypertension and high blood glucose, and often requires multidrug pharmacological interventions. The management of MetS therefore requires high healthcare cost, and can result in poor drug treatment compliance. Hence drug therapies that have pleiotropic beneficial effects may be of value. Glucagon-like peptide-1 receptor agonists (GLP-1RAs) are the newest anti-diabetic drugs that mimic incretin effects in the body. They appear to be safe and well tolerable. Herein, the pharmacology of GLP-1RAs, their side effects, drug interactions and their effects in MetS is assessed. We conducted a Google Scholar, PubMed, Scopus, and Web of Science search since 2010 to identify publications related to the use of GLP-1RAs in treating component features of the MetS. Keywords used for the search were: GLP-1 receptor agonist, exenatide, liraglutide, lixisenatide, albiglutide, dulaglutide, MetS, obesity, triglyceride, cholesterol, lipid, hypercholesterolemia hyperlipidemia, atherosclerosis, hypertension, blood pressure, hyperglycemia, hypoglycemia and blood glucose. According to the gathered data, GLP-1RAs appear safe and well tolerated. Pre-clinical and clinical studies have evaluated the lipid-lowering, anti-atherosclerotic, anti-hypertensive and anti-diabetic effects of this class of drugs. Some these effects are related to a reduction in food-seeking behavior, an increase in atrial natriuretic peptide level and hence vascular relaxation and natriuresis, and an increase of pancreas β-cell mass and protection against glucotoxicity. Collectively, this review indicates that there may be some value in GLP-1RAs repositioning to manage MetS risk factors beyond their anti-diabetic effects.

کلمات کلیدی:

Diabetes, Dyslipidemia, GLP-1 receptor agonist, Hypertension, metabolic syndrome, Obesity