

0035

Liraglutide in Treatment of Diabetes Mellitus Type 2: Systematic Review and Bibliometric Analysis Over The Last Two DecadesManar Ahmed Kamal^a, Raneem Mahmoud Al-Arawi^b^aFaculty of Medicine, Benha University, Benha, Egypt^bBachelor's degree, Faculty of Biotechnology, Modern Science and Arts University (MSA), Cairo, Egypt**Abstract**

Background: Type 2 diabetes mellitus (T2DM) is a chronic progressive metabolic disorder and liraglutide is one of the glucagon-like peptide-1 (GLP-1) agonists that are used to decrease glucose levels in the blood and help in weight loss in patients with T2DM. Bibliometric analysis is one of the most common statistical methods used to evaluate the credibility, quality, and impact of scholarly work.

Methods: We performed a systematic review and bibliometric analysis over the last two decades (2000-2020) by search on the WOS database for studies published in the literature on June 2021 by using relevant keywords ("Diabetes Mellitus, Type II") AND (Liraglutide). We extract the data of the most ten cited articles, journals, countries, and years. The bibliometric analysis was performed by HistCite software.

Results: There are 2500 records entered the bibliometric analysis and divided into 1813 articles and 687 reviews. The highest-cited paper was "Liraglutide and Cardiovascular Outcomes in Type 2 Diabetes". The LANCET was the top-cited journal with a 7599 total global citation score (TGCS). Novo Nordisk AS and USA were the most cited institution, countries in order, and with a top number of publication records. Among the most cited articles, 2016 was the first global citation year score (n=9585), while 2020 was the top in a number of publications records (n=310).

Conclusion: Our bibliometric analysis provides both quantitative and qualitative analyses and gives insight on the citation frequency of top-cited articles published in using liraglutide in the treatment of patients with diabetes mellitus type 2.

Keywords: Bibliometric Analysis, Citation, Type 2 Diabetes Mellitus, Liraglutide, Web of Science.

Funding and Conflicts of Interest

Funding

No Funding.

Conflict of Interest

The authors declare no conflict of interest.

doi:10.1016/j.metabol.2021.154997

0036

Vitamin D status and its Association with Atherogenic Index of Plasma in Young Subjects with PCOS

Vipan Talwar

Golden Hospital, Jalandhar, India

Abstract

Background-PCOS subjects often suffer from metabolic comorbidities. Atherogenic Index of Plasma(AIP) is a reliable risk marker for CV disease. Vitamin D receptor gene regulates about 3% of the human genome and Vitamin D deficiency is considered to be involved in the pathogenesis of metabolic syndrome.

Objective- To determine the vitamin D status and its potential association with Atherogenic Index of Plasma in the young subjects with PCOS

Methods- We evaluated 116 newly diagnosed young PCOS subjects aged between 15-25 years, diagnosed by Revised Rotterdam criteria who underwent detailed history, anthropometry and hormonal evaluation. 25OH-D was measured by using a chemiluminescent immunoassay and a level <20 ng/ml was consistent with Vitamin D deficiency. The atherogenic index of plasma was calculated as $AIP = \log(TG/HDL-C)$. AIP value above 0.11 was considered high.

Results- Mean age of participants was 20.63 ± 4.32 years, mean BMI 27.2 ± 6.7 kg/m² and mean waist circumference 86.3 ± 17.4 cm. 62.7% of PCOS subjects had vitamin D deficiency including 18.5% having severe deficiency (<10 ng/ml). The mean AIP of subjects with Vitamin D deficiency was significantly higher (0.17 ± 0.15) than those with normal Vitamin D levels (0.09 ± 0.13) ($p < 0.001$). VIT D concentrations had no correlation with BMI and waist circumference.

Conclusion-Vitamin D deficiency is highly prevalent among young subjects with PCOS and is associated with a higher AIP level which is a CV risk marker. Large intervention trials with vitamin D supplementation are needed to determine its potential beneficial effects on AIP levels in these young subjects.

Keywords: PCOS, Vitamin D, AIP

Abbreviations: AIP-Atherogenic Index of Plasma ; 25OH-D - 25 Hydroxy Vitamin D ; ng - nanogram,

Funding and Conflicts of Interest

None

doi:10.1016/j.metabol.2021.154998

0037

Effects of bariatric surgery versus pharmacological treatment on oxidative stress in metabolic syndromeTomas Augusto Castillo^a, Micaela Milagros Rossi^a, María de la Paz Scribano Parada^a, Franco Signorini^{a,b}, Ismael Fonseca^c, María del Carmen Baez^a

^aLaboratory of inflammatory and oxidative stress biomarkers of cardiovascular pathologies, Cathedra of Biomedical Physics. Faculty of Medical Sciences, University National of Cordoba, Cordoba, Argentina

^bPrivate University Hospital of Cordoba, Cordoba, Argentina

^cIl Cathedra of Pathology, Faculty of Medical Sciences, University National of Cordoba, Cordoba, Argentina

Abstract

Oxidative stress(OS) and inflammation would be promoters of alterations in metabolic syndrome(MS). Atorvastatin and Metformin could improve redox state, preventing MS liver lesions. Bariatric surgery would be effective to treat MS by acting on obesity, initial condition for developing MS and OS.

To analyzed in an experimental model of MS effects of atorvastatin and metformin, and action of sleeve gastrectomy(SG) on OS biomarkers and liver histology.

Wistar rats were used: (A)Control, (B)MS, (C)MS+Atorvastatin+Metformin and (D)MS+SG. MS was induced by 10% fructose for 6 weeks. Atorvastatin and metformin administered for 45 days. SG bariatric technique ensured gastric restriction of at least 80% with 45 postoperative days. Nitric oxide(NO)(μ M) and superoxide dismutase (SOD)(U/mL) were quantified to spectrophotometry. Liver tissue was analyzed by optical microscopy(OM) Statistics: ANOVA, hotelling as post hoc test, $p < 0.05$.

NO decreased in (B) compared to (A)($p < 0,001$) and normalized in groups (C)($p < 0,001$) and (D)($p < 0,01$). SOD activity in (B) increased contrasted