البحث الرابع

Potential effects of incretin-based therapies on polycystic ovary syndrome in rats: a comparative study of linagliptin versus liraglutide

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Abstract

Low glucagon like peptide1 (GLP-1) level may contribute to the metabolic dysfunction in polycystic ovary syndrome (PCOS). In this study, prospective therapeutic effects of incretin-based drugs; linagliptin versus liraglutide were investigated on letrozole induced PCOS rats. Animals were divided into five groups (control, PCOS, linagliptin, liraglutide and combined). Letrozole was administered for seven weeks (1mg/kg/day, orally). Linagliptin (3mg/kg/day, orally), liraglutide (1.2mg/kg/day, SC) and combined drugs were given for 4 weeks. Measurements of anthropometric, hemodynamics, blood glucose indices, HOMA-IR, serum lipids, TNF, NF-kB, and sex hormones were estimated. Antioxidant activities alongside immunohistochemical (PCNA) studies were assessed. The present results proved that both drugs significantly ameliorated most of anthropometric, glycemic, lipid, hormonal, inflammatory and antioxidant indices. Obvious histological improvement was obtained by linagliptin and combined therapy while being questionable by liraglutide. In conclusion, linagliptin caused evident ovarian histological advance rather than liraglutide. Linagliptin may represent a promise in alleviating metabolic, hormonal and unique beneficial histologic effects of PCOS.