Glucagon-like peptide 1 agonists: a ray of hope for the treatment of polycystic ovarian syndrome

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Dear editor, The Glucagon-like-peptide receptor- 1, agonists belong to a class of drugs that have been used to treat type 2 diabetes. Liraglutide and Semaglutide are drugs of this class, commonly sold under the brand names Saxenda and Wegovy respectively. These drugs have also been approved by the FDA for weight loss in diabetic and non-diabetic obese people.[1] The mechanism of action of GLP-1 agonists involve stimulating insulin secretion and delaying gastric emptying. Moreover, GLP-1 receptors are found on adipose tissue, where they promote the conversion of stored fat into energy. They also target the appetite center in the hypothalamus which increases satiety and reduces food intake to cause weight loss.

A large number of females who struggle with obesity, concomitantly suffer from Polycystic Ovarian syndrome (PCOS) also which is a multifactorial endocrine disorder in women of reproductive age, affecting 4-20% women around the world.[2] One of the major manifestations of this syndrome is weight gain and difficulty in losing it. In contemporary medicine, the treatment of PCOS is limited to lifestyle intervention and symptomatic management. Thus, the patients of PCOS are often told by their doctors to simply lose weight. Physicians around the world agree that weight loss is crucial for women with PCOS who are obese to attain better metabolic, reproductive, and cardiovascular outcomes, because if not treated, obesity worsens the presentation of PCOS. But it is noteworthy that the ongoing hormonal imbalances, increased appetite and insulin resistance in this syndrome, all work against the body's natural mechanism to lose weight and make it extremely difficult for the patient. This creates a dire need for external interventions regarding weight management in PCOS. Where conventional methods like dietary modifications and exercise alone do not provide substantial results, GLP-1 agonists can be a breakthrough for the management of PCOS since recent research and clinical data also provides evidence of correlation between obesity, GLP-1 kinetic alterations, and pathophysiology of PCOS.[3] Hence the use of GLP-1 agonists can be a viable option for treatment of PCOS as multiple clinical trials have shown significant weight reduction, decrease in testosterone levels, improvement in insulin sensitivity and menstrual cycles.[4]

As the prevalence of PCOS continues to rise in Pakistan, the major presenting complaints include; weight gain, facial hair, acne and menstrual irregularities in teenage girls and infertility in married females. The common practice among medical practitioners in Pakistan is to prescribe combined oral contraceptive pills and Metformin to young girls, alongside recommendations for lifestyle modification, instead of an individualized and targetted approach to treat the root cause of their PCOS. This treatment method has multiple long term side effects associated with combined oral contraceptive pills and is not efficacious to treat obesity. Studies also show that patients of PCOS remain in a vicious cycle of weight gain and weight loss for years when they opt for conventional weight loss methods. They struggle with poor body image and are more likely to develop eating disorders. Therefore, it is essential to recognize obesity as a disease, identify the struggles encompassed by PCOS and not rely solely on the patients' willpower to manage their weight. In addition to their effectiveness in promoting weight loss, GLP-1 agonists offer various therapeutic benefits by restoring hormonal balance and preventing long term complications of PCOS such as Type 2 diabetes and cardiovascular diseases.[5] Thus, it is imperative that the Endocrinologists and Gynecologists in Pakistan acknowledge the emerging role of GLP-1 agonists in the treatment of obesity related to PCOS and expand the treatment options beyond lifestyle modification and symptomatic management approach.

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