

Is liraglutide the solution for weight loss in women with polycystic ovarian syndrome?

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Dear Madam, Liraglutide is an acylated glucagon-like peptide-1 (GLP-1) receptor agonist that helps patients suffering from diabetes mellitus type 2 in controlling their blood glucose level through its meal induced insulin secretion, so-called incretin effect. The pharmacokinetic properties of liraglutide enable it to control 24-hour glycaemia.¹ It is also found to decrease the risk of stroke and cardiovascular events among patients with type 2 diabetes. It has gained a lot of popularity as it is potent and can be taken in combination with almost any other diabetic medication.

However, the use of this drug is not just limited to the treatment of diabetes mellitus. Several recent studies have shown that this drug could treat obese women suffering from polycystic ovarian syndrome (PCOS). A randomized controlled trial published in 2015 in *Hormones (Athens)* compared the effect of liraglutide and metformin on weight loss in women with PCOS.² Twenty-eight individuals participated in this study and were randomly categorized into patients receiving liraglutide (n=14) or patients receiving metformin (n=14). The study highlighted that the short-term use of liraglutide significantly reduced the weight in newly diagnosed women with PCOs. The aforementioned is not the only study that supports this result. A 2018 meta-analysis published in *Obesity Reviews* compared liraglutide, metformin and orlistat in reducing the weight in obese women suffering from PCOS.³ Data from 23 randomized controlled trials, consisting of 941 women, were evaluated, and the results showed that liraglutide whether used alone or in combination with metformin, helped reduce weight.

PCOS is one of the most prevalent endocrinology disorders in South Asia, including Pakistan. It leads to several health

risks and is found to affect the quality of life. Most women with PCOS show signs of metabolic syndrome, including obesity, hypertension, dyslipidaemia, and insulin resistance.⁴ Obesity along with insulin resistance is found to increase risk of hyperandrogenism. This leads to a chain of circumstances that promotes development of PCOS.⁵ Lifestyle changes and dietary modifications should be the first-line treatment for women with PCOS. But if lifestyle intervention is not effective in reducing weight, then the more aggressive treatment, use of liraglutide, should be considered after consultation with the health care professional.

Disclaimer: None.

Conflicts of interest: None.

Funding disclosure: None.

DOI: <https://doi.org/10.47391/JPMA.11-4370>

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