

### Sitagliptin Increases the Serum Level of HDL

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#### Introduction

Abnormal lipid profile patterns are common in patients with polycystic ovarian syndrome, and these abnormalities are not uniform in all populations(1). Dyslipidemia in PCOS may characterize by elevated plasma levels of cholesterol, low-density lipoproteins (LDL), very-low-density lipoproteins (VLDL), triglycerides (TG), and reduced concentration of high-density lipoproteins (HDL)(2). Insights into the relationship between insulin resistance and development of PCOS led to the use of insulin sensitizing agents(3). The most popular of these agents is metformin. Also, sitagliptin, as an oral antihyperglycemic agent, is used in the treatment of diabetes mellitus type2, and recently is considered in the clinical investigations of PCOS(4, 5). The aim of the present study was to evaluate the effect of sitagliptin and metformin on the lipid profile in patients with PCOS.

#### Method and Material

In this clinical trial, 60 infertile PCOS patients were selected based on the Rotterdam criteria; Then they divided into 3 groups (n=20): metformin group (Glucophage, Merck, West Drayton, UK; 500 mg, twice a day), sitagliptin group (Januvia, Merck, West Drayton, UK; 50 mg, twice a day) and placebo group. All patients were undergoing treatment with antagonist GnRH protocol. Treatment was carried out two months before the start of the ovulation cycle and continued until the day of oocyte aspiration. At the day of ovum pick up, lipid profile in blood serum were assayed.

#### Result

The serum levels of HDL had significant difference in the sitagliptin group compared to the placebo (54.38±4.78 vs. 9.59±6.18, p=0.03). There were no significant differences in serum levels of cholesterol, TG, LDL and VLDL among the groups (p>0.05) (Figure1).

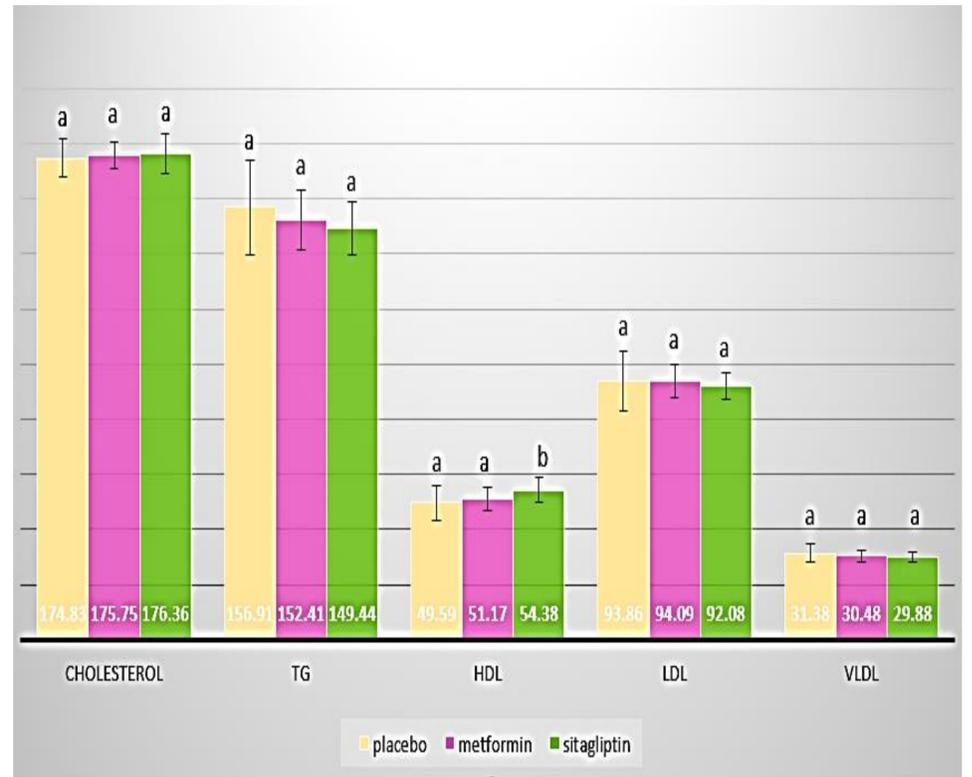


Fig.1: Distribution of lipid profile in PCOS patients undergoing treatment of metformin, sitagliptin and placebo. Means with different letter code have significant difference and means with similar letter code have no significant difference with each other

#### Conclusion

This study shows, sitagliptin can improve HDL levels more effectively than metformin in patients with PCOS undergoing ICSI.

#### References

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