121 THE COMPARISON OF THE EFFECTS OF PIOGLITAZONE AND METFORMIN ON REDUCING INSULIN RESISTANCE IN 8 TO 15 YEARS OLD CHILDREN WITH OBESITY IN GORGAN BETWEEN 2012–2013

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Background and aims: Insulin resistance is one of the metabolic complications of obesity in childhood. Metformin and pioglitazone are medications that have beneficial effects in improving insulin sensitivity via different mechanisms. The aim of this study was to comparing the effects of pioglitazone and metformin on reducing insulin resistance in 8 to 15 years old children with obesity.

Methods: In this clinical trial, 60 of 15–8 years old children with obesity or overweight were randomly divided to two groups; P (treated with 15 mg/day pioglitazone) and M (treated with 1000 mg/day metformin), and were studied for three months. Anthropometric and laboratory parameters were measured for each patient before and after intervention. Insulin resistance index (HOMA-IR) was determined for the children at the beginning and end of the study. The Collected data were analyzed using SPSS-18 statistical software and t-test.

Results: Median age of children was 10 years in both groups. In group P, 30% and in group M, 53.3% of patients were male. In both groups were observed a significant reduction in weight, BMI and HOMA-IR, fasting insulin and glucose ($P<0.05$), but there was no significant difference between two groups ($P>0.05$). There was also a significant reduction in triglycerides and cholesterol in both groups ($P<0.05$). Metformin caused a significant decrease in the levels of HDL $P<0.05$), but there was no significant change in LDL levels in any groups, ($P>0.05$). 10% of children were diagnosed low risk medical complications.

Conclusion: The results showed that both pioglitazone and metformin significantly reduced body weight, BMI and insulin resistance index in obese children.