

Effect of Short-Term Erythropoietin Therapy on Insulin Resistance in Diabetic and Non-Diabetic Hemodialysis Patients

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OBJECTIVE

Insulin resistance (IR) is a frequent multifactorial complication of uremia. It is considered an independent predictor for cardiovascular events and mortality in patients with chronic kidney disease (CKD); it may be an important therapeutic target in management of CKD. The study was conducted to evaluate the effect of short-term treatment with recombinant human erythropoietin (rHuEpo) therapy on IR, in diabetic and non-diabetic end stage renal disease (ESRD) patients on hemodialysis.

METHODS

A prospective study of 60 ESRD patients on regular hemodialysis subdivided into two groups; Group I (n=30) non-diabetic patients on regular hemodialysis and Group II (n=36) diabetic patients on regular hemodialysis both group received subcutaneous (rHuEpo) in a dose of 80-120 u/kg/week for 6 months. HOMA-IR used to calculate IR after 6 months of (rHuEpo) therapy.

RESULTS

IR was significantly higher in group II than group I; HOMA-IR of group I and II was 1.64 ± 0.88 and 10.78 ± 2.84 respectively ($p < 0.001$). On comparing results before and after (rHuEpo) therapy in both groups there was significant improvement in IR. HOMA-IR was 1.64 ± 0.88 and 0.8 ± 0.28 ($p < 0.001$) before and after intervention for G I while it was 10.78 ± 2.84 and 5.52 ± 1.61 ($p < 0.001$) before and after intervention for G II. HbA1C, total cholesterol as well as fasting and postprandial glucose measurements showed significant improvement in both groups on comparing results before and after (rHuEpo) therapy

CONCLUSION

IR is improved by (rHuEpo) therapy in hemodialysis diabetic as well as non-diabetic patients.

KEYWORDS

End-Stage Renal Disease, Hemodialysis, Erythropoietin, Diabetes Mellitus, Insulin Resistance.

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