

## SUMMARY AND CONCLUSION

Anemia of CRF develops early in the course of the disease and becomes prominent as CRF progress. It is suggested to be due to inadequate production of erythropoietin by the diseased kidney and due to decreased erythropoiesis.

The availability of rHuEpo in treatment of CRF children on hemodialysis has led to improvement of anemia and decreased the need for recurrent blood transfusions for these patients.

However, a percentage of patients do not respond to the usual dose of rHuEpo and show resistance to therapy.

Resistance to rHuEpo therapy may be due to foliate deficiency, aluminum toxicity or hyper parathyroidism.

Many studies have suggested the presence of anti-Epo antibodies in patient's serum as an additional cause of Epo resistance.

This study was conducted on **30** children with ESRD on regular HD for at least 6 months (17 males and 13 females); their ages ranged from 5-17 years, from those attending the Hemodialysis and Nephrology Unit, Cairo University. In addition to other 10 children of the same age group as a control group.

These patients were classified into subgroups according to the route, dose, type and duration of Epo therapy.

The kidney status was evaluated by routine workup including complete renal profile.

The hematological status was evaluated by measurement of Hb%, HCT, serum Fe and serum ferritin.

Response to Epo therapy was evaluated measurement of serum Epo by Immulite and detection of anti Epo antibodies by immulite.

Anti-Epo antibodies were found in 16.7% of our cases (5 cases out of 30) of ESRD on regular HD.

No cases of PRCA have been reported by bone marrow aspiration of cases showing positive antibodies.

Patients were classified into 2 subgroups according to the dose of Epo therapy, those with high doses of Epo showing low Hb% and HCT values.

They were also classified into 2 subgroups according to the duration of Epo therapy, 8 cases (27%) were treated with Epo less than one year and 22 cases (73%) more than one year.

As regarding for the route of Epo, they were 22 cases (73%) receiving Epo SC and 8 cases (27%) receiving Epo IV.

## **Conclusion:**

- Anti-erythropoietin antibodies were found in **16.7%** of our patients of ESRD on regular HD for at least 6 months.
- We could not find a relation between the presence of anti Epo antibodies and the type of rHuEpo as all our patients were receiving epoetin alpha.
- We have found a good positive relation between the occurrence of Epo antibodies and the dose of rHuEpo.
- Non significant relationship between the occurrence of Epo antibodies and the duration of Epo therapy.
- No relationship could be found between factors affecting the efficacy of dialysis and Epo antibodies.
- Our patients did not show any of the features of PRCA.
- Administration of parenteral iron is needed for patients receiving Epo therapy.