An inversely relationship between serum intact parathormone (iPTH) and serum hemoglobin level among end-stage renal disease (ESRD) patients undergoing maintenance hemodialysis, is an issue of much importance. According to the various studies, an increase in serum level of iPTH leads to a decrease in serum level of hemoglobin among hemodialysis patients (1-3). While, several studies have also suggested a significant relationship between secondary hyperparathyroidism (SHPTH) and anemia in ESRD patients (2-7), however, the evaluation of other common cause of anemia among ESRD patients undergoing maintenance hemodialysis including iron deficiency anemia, inflammation, aluminum toxicity and etc., is also needed for better evaluation.

For example, in a cross-sectional study, Chutia and Ruram (3), evaluated the role of secondary hyperparathyroidism as a cause of anemia and correlation of intact parathyroid hormone and hemoglobin among 63 individuals admitted in hemodialysis (HD) unit of North East Indira Gandhi Institute of Health and Medical Science. The result of this study showed a reverse correlation between intact parathyroid hormone and hemoglobin level. There was no correlation between intact parathyroid hormone and serum ferritin level in the Chutia and Ruram, study which indicate that the anemia is not due to depleted iron stores. In another study, Baradaran and Nasri (4), evaluated the role of SHPTH in the severity of anemia in 36 ESRD patients undergoing maintenance hemodialysis. The result of this study also showed, a reverse correlation between iPTH and hemoglobin level as well as between alkaline phosphatase and hemoglobin level. In addition, they also showed a correlation between severity of hyperparathyroidism and intensity of anemia. They concluded that SHPTH, per se can intensify anemia among ESRD patients.

The results of other cross-sectional study carried out by Trovato et al. (6), is also consistent with the results of studies by Baradaran and Nasri (4), Chutia and Ruram (3), and Sliem et al. (5) study. In Trovato et al. (6), study on 45 hemodialysis patients, a reverse correlation between the degree of anemia and hyperparathyroidism was detected. In addition, Trovato et al. (6), showed that hemodialysis patients with elevated intact parathyroid hormone level need to higher dose of recombinant human erythropoietin (r-HuEpo) for correction of anemia.

In addition to above studies, there are several articles that evaluate the possible beneficial effect of parathyroidectomy on anemia in ESRD patients (8-12). Zingraff et al. (8), study is the first report, more than 3 decades ago, on the positive effects of parathyroidectomy on correction of anemia among uremic patients. They observed an increase in hemoglobin level 6 to 9 months after parathyroidectomy in 18 patients. They also showed a correlation between the amount of marrow fibrosis and the improvement of anemia after surgery.

Approximately two decades later, the positive effects of parathyroidectomy on correction of anemia among uremic patients was also reported by Goicoechea et al. (9), who evaluated seven uremic patients 6 months after parathyroid surgical removal. They detected an increase in hemoglobin level, along with reduced erythropoietin needs from 136 to 94 units/kg per week.

More recently, Chow et al. (10), in a retrospective cohort study, compared the preoperative and six months postoperative hematological and biochemical variables after parathyroidectomy in 23 Chinese ESRD patients undergoing long-term dialysis in a 3-year period. The result of the study showed that, the mean hemoglobin level but not the mean platelet level is significantly increased six months post parathyroidectomy with an exceedingly low complication rate. Although the hemoglobin level is significantly elevated six months postoperatively in the study, however the study is limited because of retrospective design and short duration of study.

Additionally, Trunzo et al. (11), have evaluated the effect of parathyroidectomy on anemia and erythropoietin dosing in 37 ESRD patients. The result of the study showed that the recombinant human erythropoietin dosing requirement for...
Ghaderian SB et al.


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