HYPOTHYROIDISM AND THE HAEMODIALYSIS PATIENTS. IT IS A MATTER FOR DISCUSSION.

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Abstract

INTRODUCTION

PATIENTS AND METHODS

The TSH, T4, T3 measured by Vidas (Ref 30 400 BioMerieux SA, RCS Lyon, France), the PO4 (serum phosphate) measured by spectrophotometer Cecil 1011 at 680 nm, also the serum calcium measured by the spectrophotometer (Cecil 1011) but at 570 nm by Spin react kit. The sodium and potassium measured by Easylyte calcium Na,K, Ca and Ph analyzer.

Statistical analysis was carried out using SPSS version 18. Continuous variables were presented as means with their 95% confidence interval (CI). Independent sample t-test was used to compare means between two groups. One way analysis of variance (ANOVA) was used to compare means among more than two groups. A p-value of ≤ 0.05 was considered as statistically significant, meanwhile, a p-value of ≤ 0.01 was considered as strongly statistically significant.

RESULTS

The overall mean age of patients who sit for haemodialysis dialysis was 53.58 ± 12.53 years. There was no significant difference between the mean age for male (53.84± 13.33 years) and female (53.30± 11.68 years) (t=0.281, df=147, p=0.780).

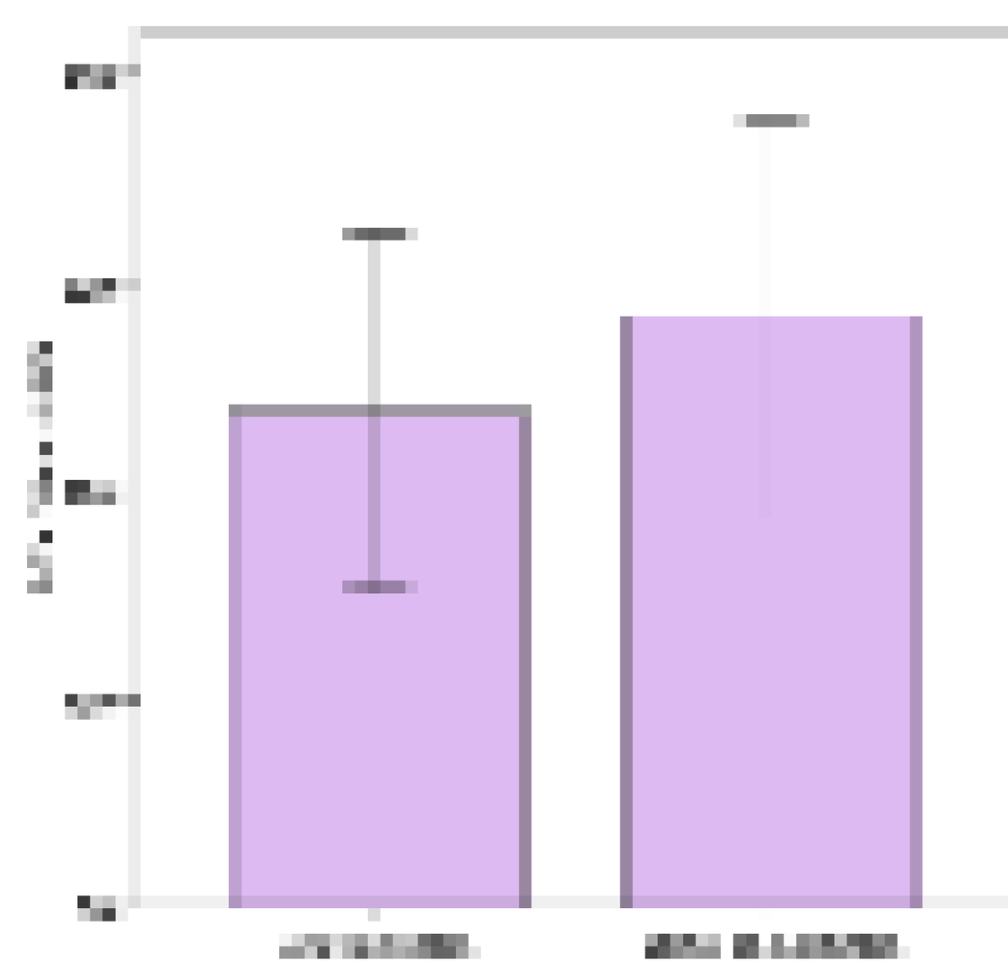

Figure 1 shows the mean differences of PCV by T3 levels. There was significant difference between PCV means for low and normal T3.

t-test=5.780, p<0.001**

Figure 1: Mean differences of PCV by T3 levels

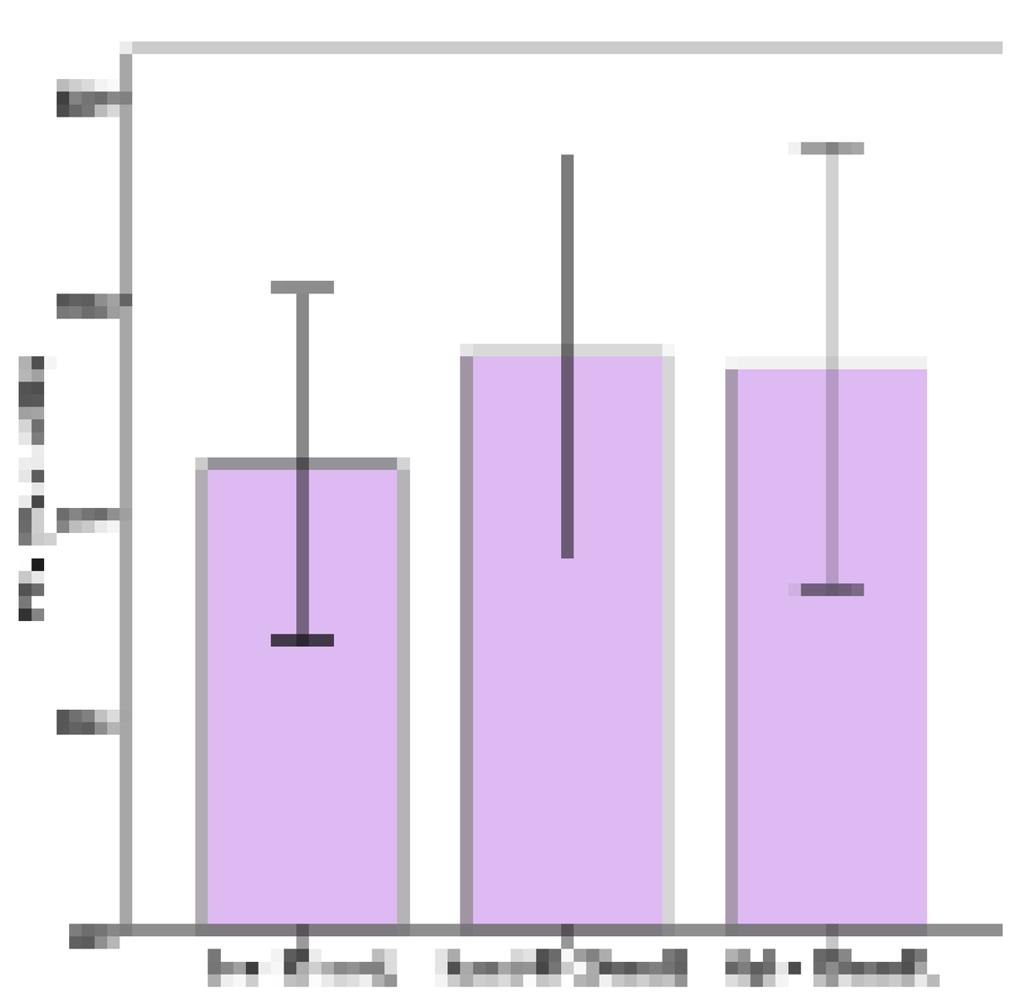

Figure 2 shows the mean differences of PCV by T4 levels. There was significant difference between PCV means for low, normal and high T4.

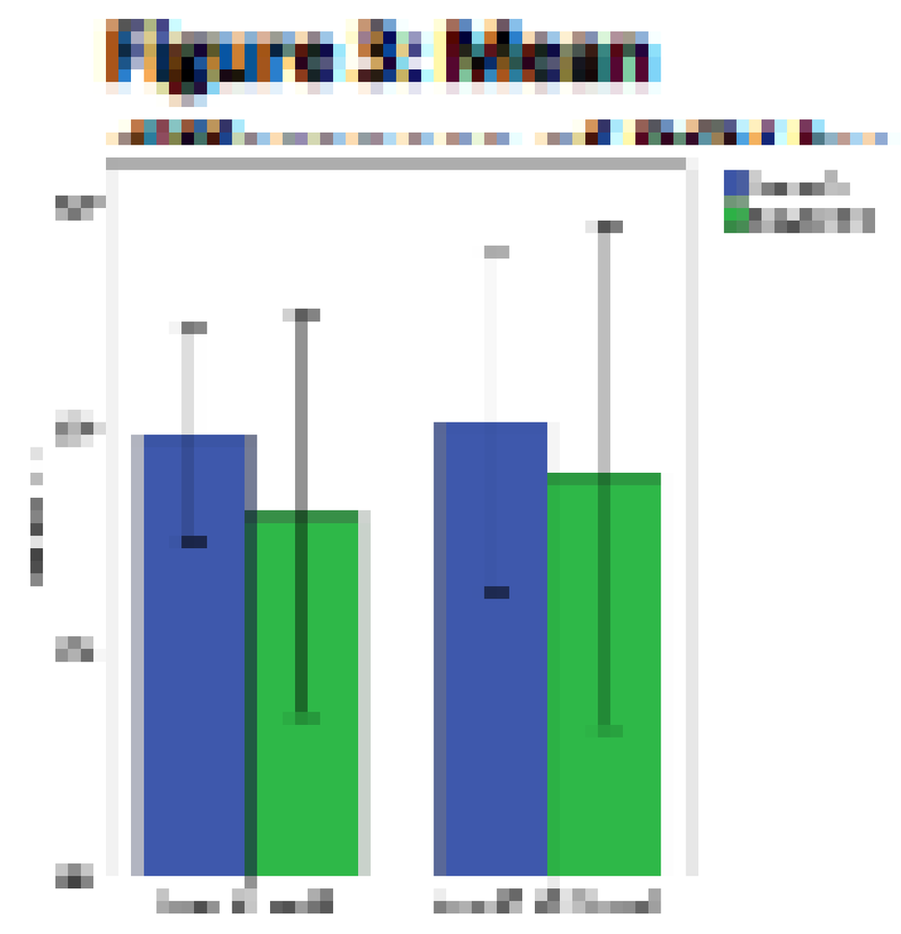

Figure 3 shows the mean differences of PCV by TSH levels. There was significant difference between PCV means for low, normal and high TSH.

F= 24.039, p< 0.001**

Figure 3: Mean differences of PCV by TSH levels

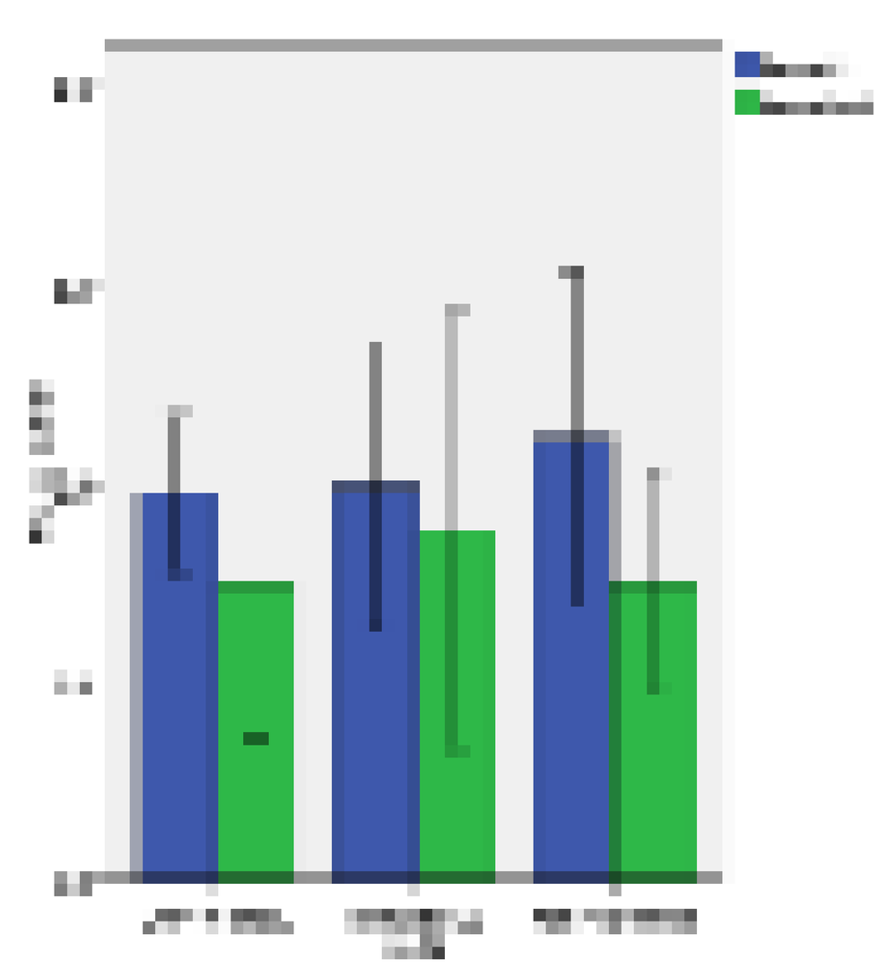

Figure 4 shows the mean differences of serum Ca and PO4 by T3 levels. There were no significant differences between serum Ca and PO4 means for low and

F= 0.935, p=0.351 (S.Ca)

F= 1.941, p=0.054 (S.PO4)

Figure 4: Mean differences of serum Ca and PO4 by T3 levels

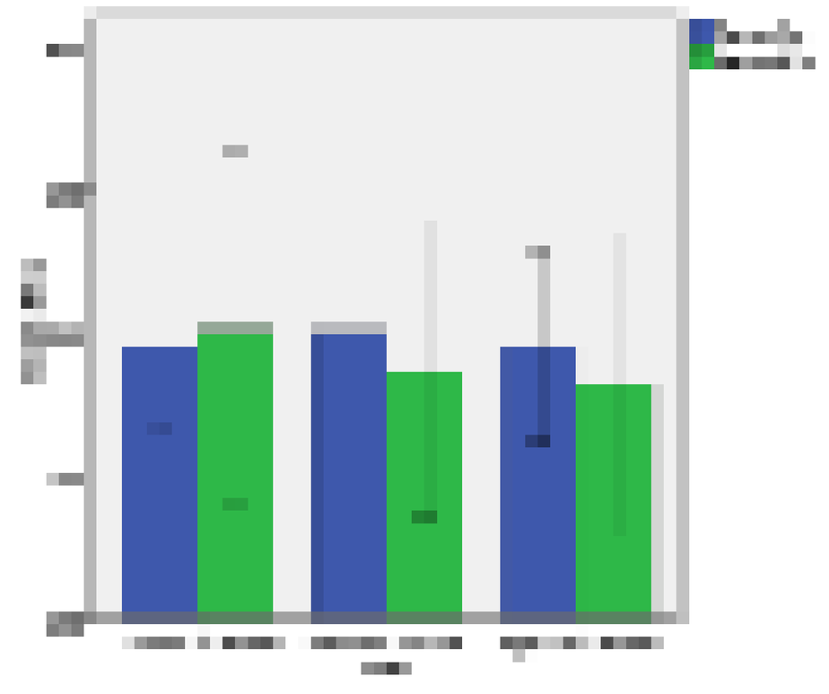

Figure 5 shows the mean differences of serum Ca and PO4 by T4 levels. There were no significant differences between serum Ca and PO4 means for low, normal and high T4.

F= 0.873, p=0.420 (S.Ca)

F= 2.884, p=0.058 (S.PO4)

Figure 5: Mean differences of serum Ca and PO4 by T4 levels

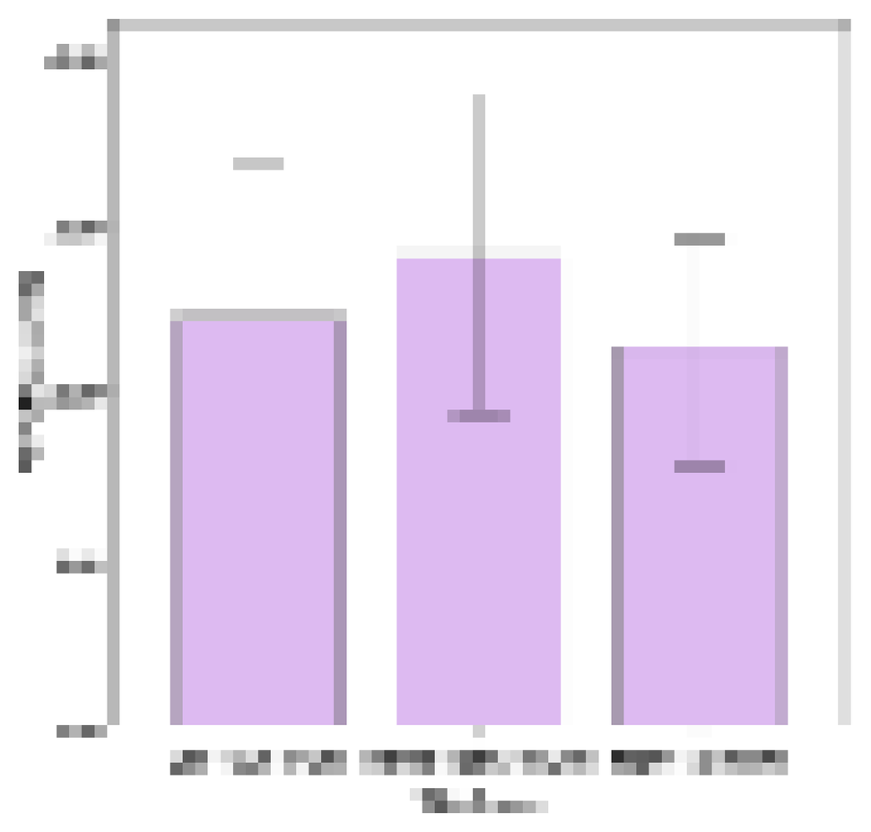

Figure 6 shows the mean differences of serum Ca and PO4 by TSH levels. There were no significant differences between serum Ca and PO4means for low, normal and high TSH.

F= 1.772, p=0.174 (S.Ca)

F= 1.670, p=0.192 (S.PO4)

Figure 6: Mean differences of serum Ca and PO4 by TSH levels

Discussion

metabolism are also involved (7). Our data not agreed with this idea we suggest that the hypothyroidism independently affect the EPO responsiveness in bone marrow precursors where the results indicate that there is no relationship with calcium ions which is important for the maturation and development of the blood cells.

Animal and human studies show that thyroid hormones stimulate red cell production (14 and 15). In hypothyroidism, the erythrocyte life span remains normal, and there is hypoproliferative erythropoiesis (14). There have been several suggestions to try to explain how thyroid hormones stimulate erythropoiesis. Increased metabolic rate and its related increase in oxygen demand have been the major explanations (7). The proposed mediator was erythropoietin. Consistent with this suggestion, Christ-Crain et al (12) found elevated erythropoietin levels after levothyroxine therapy in subclinical hypothyroid women this agreed with our idea and results of Cem Sungur et al (6) which indicated that hypothyroidism a cause of resistance to erythropoietin treatment and suggest that euthyroid state is traditional for the action of erythropoietin on the bone marrow and they proved that increment in hemoglobin and haematocrit after initiation of levothyroxine without adding other factors like iron.

References

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49) Sungur C, Ertas T, Akpolat T, Arik N. Resistance to human recombinant erythropoietin in hypothyroidism.

17 ECE 1072--EP

Thyroid non-cancer

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DOI: 10.3252/pso.eu.17ece.2015

Poster presented at: ECE2015 16-20 May 2015 DUBLIN, IRELAND 17th EUROPEAN CONGRESS OF ENDOCRINOLOGY