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Original article

Anti-parathyroid treatment effectiveness and persistence in incident haemodialysis patients with secondary hyperparathyroidism

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ABSTRACT

Background: Anti-parathyroid treatment initiation and discontinuation are important decisions in chronic haemodialysis (HD) patients, where pill burden is often excessive. The present study aimed to describe secondary hyperparathyroidism (sHPT) drug therapy changes in HD patients.

Methods: Retrospective observational cohort study of incident European HD patients with sHPT who were prescribed calcitriol or alfacalcidol (alpha calcitriol), paricalcitol or cinacalcet.

Results: Treatment-naïve patients prescribed alpha calcitriol (N = 2259), paricalcitol (N = 1689) and cinacalcet (N = 1245) were considered for analysis. Serum intact parathyroid hormone (iPTH) levels decreased post-initiation with all treatment modalities; serum calcium and phosphate levels increased in response to activated vitamin D derivatives but decreased with cinacalcet. Approximately one-third of alpha calcitriol and paricalcitol patients but less than one-quarter of cinacalcet patients discontinued treatment. Although the three groups had comparable serum iPTH control at the time of treatment discontinuation, they differed in terms of calcium and phosphate levels. Following discontinuation, the evolution

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differed by treatment modality: whilst iPTH increased for all three treatment groups, calcium and phosphate decreased in patients who were being treated with alpha calcitriol and paricalcitol at the time of discontinuation, and increased in those who had been treated with cinacalcet.

Conclusions: In conditions of daily clinical practice, attaining and maintaining recommended biochemical control of sHPT appears to be more frequently achievable with cinacalcet than with activated vitamin D compounds.

Efectividad y persistencia de los tratamientos del hiperparatiroidismo secundario en pacientes incidentes en hemodialisis

Palabras clave:
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Inicio del tratamiento
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Interrupción del tratamiento

RESUMEN

Antecedentes: El inicio y la discontinuación del tratamiento antiparatiroideo son decisiones importantes en los pacientes en hemodiálisis crónica (HD) en los que la carga de pastillas es con frecuencia excesiva. El objetivo de este estudio es describir de tratamiento del hiperparatiroidismo secundario (sHPT) en pacientes en HD.

Métodos: Estudio de cohorte, observacional retrospectivo de pacientes europeos incidentes en HD con sHPT a quienes se prescribió calcitriol o alfacalcidol (calcitriol-alfa), paricalcitol o cinacalcet.

Resultados: Se incluyeron en el análisis pacientes que recibieron por primera vez calcitriol-alfa (N = 2259), paricalcitol (N = 1689) y cinacalcet (N = 1245). Los valores sericos de hormona paratiroidea intacta (iPTH) disminuyeron tras iniciación con todos los tratamientos; los valores de calcio y fosforo serico se elevaron en respuesta al tratamiento con activadores de vitamina D pero disminuyeron con cinacalcet. Aproximadamente un tercio de los pacientes que recibieron calcitriol alfa y paricalcitol, y menos de una cuarta parte de los de cinacalcet discontinuaron el tratamiento. Aunque los tres grupos tuvieron descensos comparables de iPTH al momento de la interrupción del tratamiento, sin embargo difirieron en los valores de calcio y fosforo serico. Tras la interrupción, la evolución de los parámetros de laboratorio fué diferente según la modalidad de tratamiento: mientras que la iPTH se elevó en las tres modalidades, el calcio y fosforo sericos disminuyeron en los pacientes que estaban siendo tratados con calcitriol-alfa y paricalcitol en el momento de la interrupción y aumentaron en los que lo hacían con cinacalcet.

Conclusiones: En condiciones clínicas que representan la practica diaria, alcanzar y mantener los valores recomendados para el control del sHPT se consigue más frecuentemente con cinacalcet que con compuestos activos de vitamina D.

Introduction

Secondary hyperparathyroidism (sHPT) occurs early in chronic kidney disease (CKD) and is a major component of the CKD-related mineral and bone disorder (CKD-MBD).[1] Major CKD-MBD complications include fractures, cardiovascular disease (CVD), and mortality.[2–7]

Control of serum calcium, phosphorus and PTH has been associated with reduced mortality risk in haemodialysis patients,[8] hence effective sHPT control is important in these patients. Reduced persistence, compliance, and/or adherence with oral medications are a common problem, especially in CKD patients,[9] with non-adherence rates of 3–80% reported.[10–12] Non-adherence was associated with increased mortality in the dialysis population,[13] highlighting a potential unmet need among patients who do not persist with sHPT therapies. Clinical trial data,[14] where persistence-corrected analyses revealed more beneficial effects associated with cinacalcet (Sensipar®/Mimpara®) prescribing than uncorrected analyses, support this hypothesis.

The current study, conducted in European patients initiating haemodialysis (HD) treatment, aimed to describe separately the characteristics of patients who initiated long-term sHPT therapies with either prescribed activated vitamin D sterols (AVDs) or cinacalcet, the conditions and reasons for non-persistence and the consequences of initiation and non-persistence, respectively, for the control of serum biochemistry parameters.