PATTERN OF TREATMENT AND HEALTHCARE COSTS OF SECONDARY HYPERPARATHYROIDISM IN DIALYSIS PATIENTS: A REAL-WORLD EVIDENCE ANALYSIS

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OBJECTIVES

Secondary hyperparathyroidism (SHPT) is a frequent condition in dialysis patients causing mineral bone disease and vascular calcification. Aim of this study was to determine pattern of treatment and healthcare costs related to SHPT in patients underwent renal replacement therapy.

METHODS

Administrative datasets of Lombardy Region (about 10 million inhabitants), Italy, were analysed regarding hospitalizations, diagnostic procedures, outpatient and drug prescriptions. Patients in dialysis in year 2011 and already in dialysis in the first 6 months of 2009 were selected. SHPT patients were identified through prescription of cinacalcet and/or paricalcitol and/or hospitalizations (parathyroidectomy and/or SHPT diagnosis) and observed for 4 years (2009-2012). Patients adherence to SHPT pharmacological treatments was calculated as percentage of patients with > or = 80% of drugs delivery/time and a duration of treatment of at least one year. Perspective of the analysis was that of Regional Healthcare Service (RHS).

RESULTS

Figure 1. Total per SHPT patient yearly healthcare cost composition (n=1793)

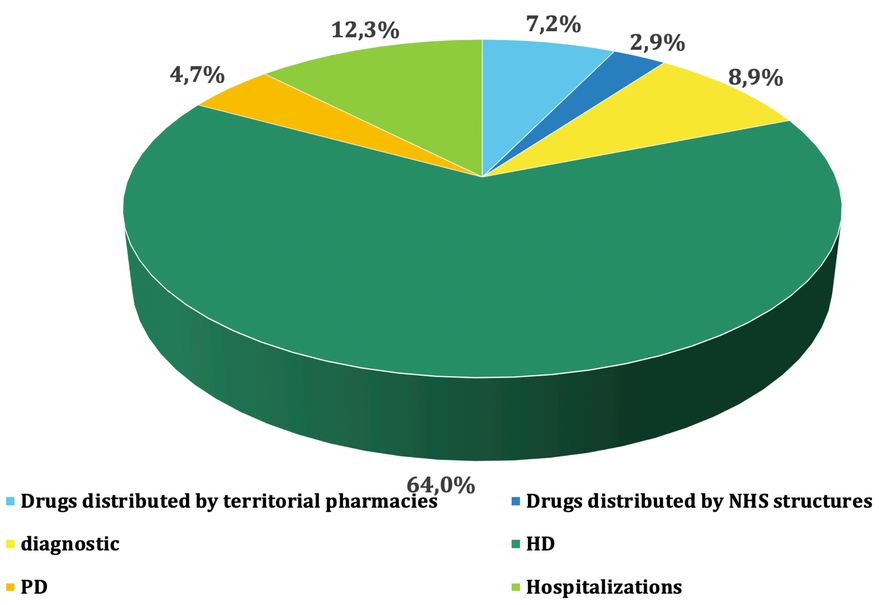

Table 1. Per patient yearly healthcare costs, adherent vs non adherent to cinacalcet (n=944)

	adherence >=80% (mean per patient yearly cost) n=484 pts	adherence <80% (mean per patient yearly cost) n=510 pts	Difference (adherent vs non adherent) €	Difference (adherent vs non adherent) %
hospitalizations	4,515.7 €	5,314.4 €	- 798.8 €	-17.7%
drugs	6,164.6 €	4,077.5 €	2,087.1 €	33.9%
outpatients	33,335.3 €	33,445.8 €	- 110.4 €	-0.3%
total	**44,015.5 €**	**42,837.7 €**	**1,177.9 €**	**2.7%**

8316 patients were in renal replacement therapy (RRT) in 2011, of them 4791 were already in dialysis in the first 6 months of 2009 and 1793 had SHPT (37.4%, mean age 63.3 years, females 42.9%). The 85.8% received haemodialysis (HD) and the remaining peritoneal dialysis (PD) or both.

In the selected population, about 23% of patients are aged >75 years and a total of about 82% were aged more than 50.

Cancer was diagnosed in 14.8% of patients, diabetes in 16.8% and cardiovascular (CV) pathologies and in 61.7% of patients.

Paricalcitol, cinacalcet and sevelamer were the most widely prescribed drugs (distributed directly by NHS structures). In addition to drugs related to chronic kidney disease (CKD), considering drugs distributed through territorial pharmacies, PPIs and drugs for CV diseases were the most widely prescribed.

The 55% of SHPT patients were treated with cinacalcet (n=994) for at least one year and 32% were treated with paricalcitol (n=568) for at least one year.

Most frequent causes of hospitalizations were complications of renal dialysis devices, implants and grafts, end-stage renal disease and CKD. Considering the first 20 most frequent diagnosis of hospitalizations, CV ones accounted for 16.3%. Patients' adherence to SHPT treatments were 48.69% with cinacalcet while with paricalcitol were 27.99%. Mean per SHPT patient yearly cost accounted at 41,555€/year (n=1793 pts) with dialysis (HD and PD) being the most relevant cost component (68.%) followed by hospital admissions (12.3%) and drugs (10.1%). Cinacalcet and paricalcitol expenditure represent only the 3.1% and 1%, respectively, of the total yearly cost. Total yearly cost composition is reported in figure 1. Considering patients treated with cinacalcet (n=994), adherent ones had a slightly higher total yearly cost (+2.7%) with higher drugs costs but reduced costs related to hospitalizations (table 1).

CONCLUSIONS

This analysis of a large dataset confirm usefulness of real-world data for the identification of treatment patterns and costs of a chronic disease highlighting, in this case, the high costs in charge to Health Services of dialysis patients affected by SHPT and the relevant percentage of patients with sub-optimal adherence and its possible implication on hospitalizations costs. Further investigations are needed in order to confirm possible correlation between adherence to SHPT treatments and costs.

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