

# PRIMARY HYPOPARATHYROIDISM IS COMMON IN ADULT PATIENTS WITH beta-THALASSEMIA AND PROTECTS PATIENTS FROM OSTEOPOROSIS.

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## INTRODUCTION

Beta-Thalassemia (bT) is associated to several endocrine abnormalities mainly due to iron overload. With the increase in bT-patients life expectancy, due to progresses in iron chelation therapy, more patients enter into adulthood than in the past and the prevalence of endocrine diseases is being reconsidered. The aim of the study is to investigate the prevalence of primary hypoparathyroidism (pHPT) in adult bT-patients and to characterize the relative clinical phenotype with particular regard to bone health.

## MATERIALS and METHODS

We enrolled 26 adult patients with major or intermedia bT (12M, 14F; mean age±SD of 38.1±7.5 yrs). Serum PTH, 25-hydroxyvitamin D (25OHD), calcium, phosphorous, albumin, bone turnover markers and bone mineral density (BMD) by Dual-Energy-X-ray-Absorptiometry (Hologic) at lumbar and femoral site were measured.

## RESULTS

pHPT (PTH <15 pg/ml) was found in 7 of the 26 patients (27%) (Figure 1). Of them, 4 patients (57%) had hypocalcemia (Figure 1) and 2 were on chronic calcium therapy. Lumbar BMD was significantly higher in patients with pHPT (0.884±0.189 g/cm<sup>2</sup>) than in patients without pHPT (0.731±0.124 g/cm<sup>2</sup>) (p=0.023) (Table 1). No significant difference was found in femoral BMD, even though a trend for higher BMD was present in pHPT (0.704±0.117 vs 0.670±0.143 g/cm<sup>2</sup> in pHPT and no-pHPT respectively) (p=0.578) (Table 1). The prevalence of osteoporosis was higher in patients without pHPT (68%) than in patients with pHPT (29%) (Figure 2). Two patients had a history of bone osteoporotic fractures and both of them did not present pHPT (Figure 2). Bone turnover markers were no different in the two groups (Table 1).

Table 1	N° PATIENTS	HYPOCALCEMIA	LUMBAR BMD	FEMORAL BMD *	CALCIUM THERAPY	CALCITRIOL THERAPY	BISPHOSPHONATES THERAPY	CALCIUM LEVELS	PHOSPHORUS LEVELS	PTH LEVELS *	VITAMIN D LEVELS	ALKALINE PHOSPHATASE	CTX	OSTEOCALCIN
pHPT	7	57%	0,884	0,704	29%	57%	0%	8,76	4,31	10,73	23,94	90,43	0,56	12,81
no-pHPT	19	0%	0,731	0,670	26%	5%	16%	9,42	3,81	26,83	20,38	106,50	0,68	17,47

\* P < 0.05

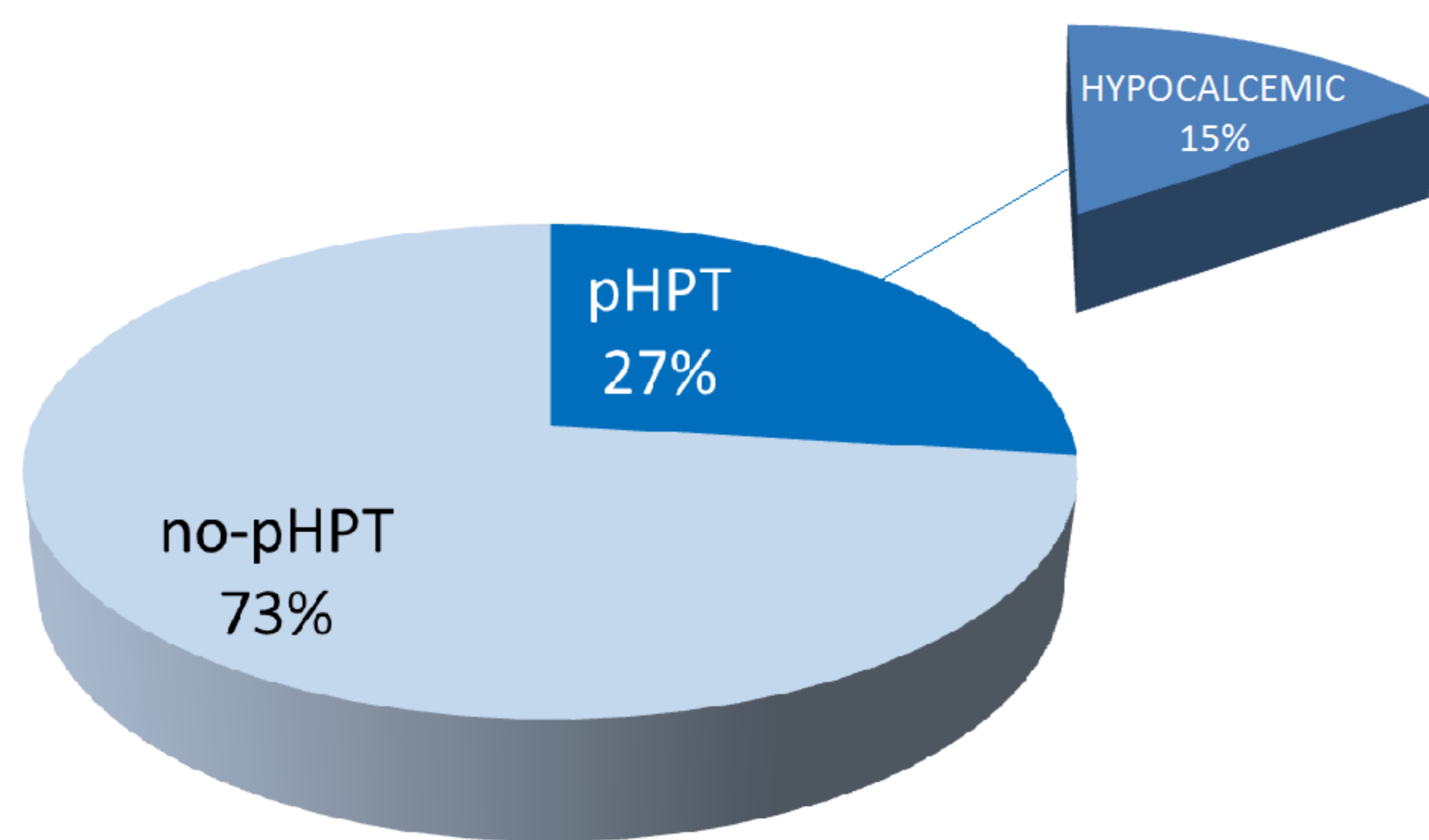


Figure 1

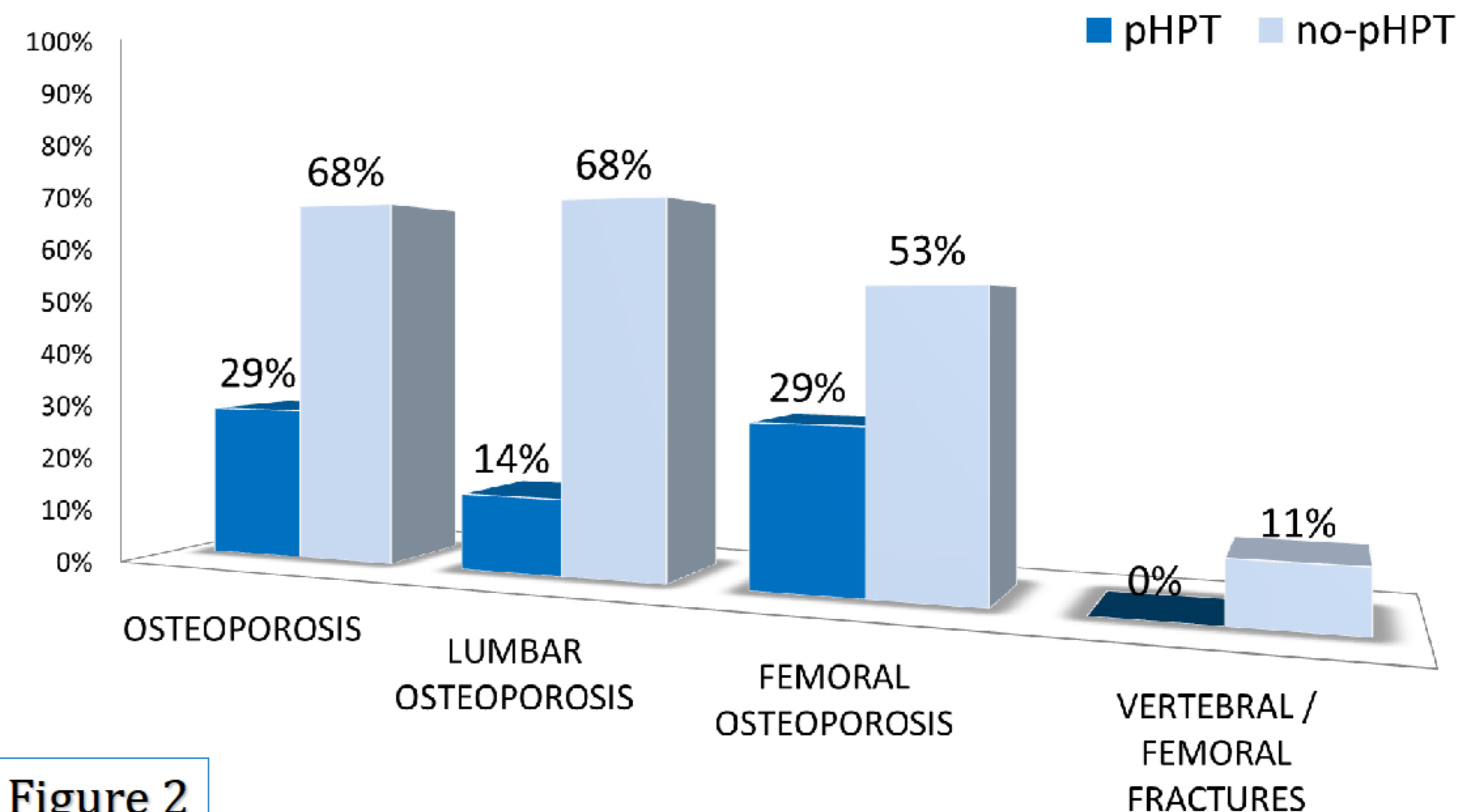


Figure 2

## CONCLUSIONS

The prevalence of pHPT in adult bT-patients is higher if compared to that observed in pediatric bT-patients, the latter ranging from 8 to 11%. Moreover we found an higher prevalence of pHPT compared to that reported in literature on adult bT patients. As expected, pHPT seems to exert a protective role on the development of osteoporosis in these patients.

## REFERENCES

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