



# **PRIMARY HYPERPARATHYROIDISM AND VITAMIN D DEFICIENCY THERAPEUTIC IMPLICATIONS**

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# Introduction

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- **Primary hyperparathyroidism is a rather frequent disorder characterized by high plasma PTH and calcium**
- **Vitamin D deficiency is prevalent in all areas of the world**
- **Vitamin D deficiency has been described in patients with primary hyperparathyroidism**
- **When present, vitamin D deficiency may be associated with large size parathyroid adenomas and musculoskeletal pain**



# Aim

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- **The aim was to describe two cases of primary hyperparathyroidism and vitamin D deficiency**



# Case Report

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- **A patient, male aged 87 years, was hospitalized for coronary insufficiency and diffuse musculoskeletal pain. During hospitalization high plasma calcium was observed, calcium levels being 10.5 mg/dl**
- **Laboratory investigations revealed high plasma parathyroid hormone levels, PTH being 117 pg/ml (normal values 10-65 pg/ml) and low plasma 25(OH)D3 levels, 25(OH)D3 being 8 ng/ml (normal values <30 ng/ml)**
- **Bone mineral density was measured in the neck of the left femur and revealed a T score of -3.05**
- **Vitamin D supplementation was initiated followed by the administration of alendronate**
- **Ultrasonography revealed an adenoma beneath the right lobe of the thyroid gland**
- **Conservative management was chosen due to old age**



# Case Report

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- **A patient, female aged 42 years, presented with diffuse musculoskeletal pain**
- **Laboratory investigations revealed high plasma PTH (PTH 163 pg/ml), low plasma 25(OH)D3 [25(OH)D3 9 ng/ml] and calcium 11.3 mg/dl**
- **On scintigraphy a parathyroid adenoma was visualized beneath the left lobe of the thyroid gland**
- **Vitamin D supplementation was performed followed by surgery to remove the parathyroid adenoma**
- **Postoperatively, the patient developed hungry bone syndrome**



# Case Report

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- **In both cases after vitamin D supplementation the diffuse musculoskeletal symptoms improved**



# Discussion

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- **Vitamin D deficiency may be found in the context of primary hyperparathyroidism**
- **When present, vitamin D supplementation should be initiated cautiously, as it may aggravate primary hyperparathyroidism**
- **Cautious vitamin D supplementation is however necessary, will not cause an increase in calcium and PTH levels and will improve musculoskeletal pain**