

# HYPOCALCEMIA DEVELOPMENT IN PATIENTS OPERATED FOR PRIMARY HYPERPARATHYROIDISM: CAN IT BE PREDICTED PREOPERATIVELY?

Cafer KAYA<sup>1</sup>, Abbas Ali TAM<sup>1</sup>, Ahmet DİRİKOÇ<sup>1</sup>, Aylin KILIÇYAZGAN<sup>2</sup>, Mehmet KILIÇ<sup>3</sup>, Şeyda TÜRKÖLMEZ<sup>4</sup>, Reyhan ERSOY<sup>5</sup>, Bekir ÇAKIR<sup>5</sup>

<sup>1</sup>Ataturk Training and Research Hospital, Department of Endocrinology and Metabolism, Ankara, TURKEY

<sup>2</sup>Yıldırım Beyazıt University, Department of Pathology, Ankara, TURKEY

<sup>3</sup>Yıldırım Beyazıt University, Department of General Surgery, Ankara, TURKEY

<sup>4</sup>Ataturk Training and Research Hospital, Department of Nuclear Medicine, Ankara, TURKEY

<sup>5</sup>Yıldırım Beyazıt University, Department of Endocrinology and Metabolism, Ankara, TURKEY

## Introduction

Primary hyperparathyroidism (PHP) is a highly prevalent disease, which is treated most effectively by surgery. Postoperative hypocalcemia, a morbidity of surgical treatment of parathyroidism, can prolong the hospital stay. The aim of this study was to identify the factors predictive of hypocalcemia and hungry bone syndrome (HBS) in patients who undergo parathyroidectomy due to PHP.

## Methods

Preoperatively and on days 1 and 4, and month 6 postoperatively, the patients' laboratory data including parathyroid hormone (PTH), calcium, phosphorus, 25-hydroxy D<sub>3</sub> (25-OHD), albumin, magnesium, alkaline phosphatase (ALP), blood urea nitrogen (BUN), and thyroid stimulating hormone (TSH, free T3 and free T4 levels; and neck ultrasonography (US) and bone densitometry findings were recorded.

## Results

Hypocalcemia was observed in 63 (38.4%) of 164 patients on day 1 following parathyroidectomy. On the postoperative 6<sup>th</sup> month, permanent hypocalcemia was present in 10 (6.1%) patients. HBS was observed in 22 (13.4%) of the patients who underwent parathyroidectomy due to PHP. Among the PHP-related parathyroidectomy patients, postoperative hypocalcemia was observed more frequently among patients with parathyroid hyperplasia and those with osteoporosis. On the other hand, PTH, ALP and BUN values were higher among patients who developed HBS. Additionally, HBS was observed more frequently among osteoporosis and parathyroid hyperplasia patients and those who had thyroidectomy simultaneously with parathyroidectomy.

## Conclusion

As a result, a more thorough preoperative follow-up is recommended for patients with risk factors for hypocalcemia and HBS development.

