

ACUTE KIDNEY INJURY AS THE FIRST CLINICAL MANIFESTATION OF ADENOMA OF THE LEFT LOWER PARATHYROID GLAND WITH SEVERE PRIMARY HYPERPARATHYROIDISM: A CLINICAL CASE STUDY

Rashidha M. K. F.

Vitebsk state medical university

Scientific supervisor: PhD, Assoc. Prof. Masko M. V.

Relevance. Primary Hyperparathyroidism (PHPT) may present as a hypercalcemic crisis triggered by physical stress, causing multi-organ dysfunction [1,2]. This case examines an ulnar fracture triggering severe Acute Kidney Injury (AKI), masking a silent parathyroid adenoma.

Target. To analyze the nexus between trauma, hypercalcemia, and renal failure in PHPT.

Research methods. Retrospective analysis of a 48-year-old male (K.A.N.). Diagnostics included PTH immunoassay, serum calcium, Cr/eGFR (CKD-EPI), Tc-99m MIBI scintigraphy, MSCT, renal ultrasound, FGDS, and myelogram [3, 4].

Results and their discussion. A stepwise «vicious cycle» of metabolic instability began with an undiagnosed parathyroid adenoma. An ulnar fracture and immobilization then triggered a hypercalcemic crisis via exacerbated bone resorption. Labs showed a peak PTH of 2475.8 pg/mL (norm: 15–65) and serum calcium of 4.41 mmol/L [2, 5].

This extreme hypercalcemia functioned as a direct nephrotoxin, causing acute tubulointerstitial nephritis. The resulting AKI led to a rapid rise in Creatinine to 0.22–0.27 mmol/L and a drop in the estimated glomerular filtration rate (eGFR) to 29 mL/min (CKD Stage 4). The renal failure, in turn, impaired calcium excretion, further elevating serum levels and suppressing erythropoiesis, evidenced by moderate normochromic anemia (Hb 79–86 g/L) and marrow hypocellularity.

MSCT localized a 10.7×16.0×22.0 mm mass posterior to the left thyroid lobe. On December 9, 2025, a resection of the parathyroid gland was performed; histology confirmed an adenoma. Post-operatively, PTH dropped to 13.2 pg/mL, inducing “hungry bone syndrome.” Stabilization was achieved via high-dose Calcitriol (0.25 mcg) and Calcium D3, maintaining serum calcium at 2.31–2.51 mmol/L. Following surgery, renal function stabilized, breaking the metabolic cycle, though secondary nephropathy required long-term monitoring.

Conclusions. Trauma can trigger hypercalcemic crisis in occult PHPT, fueling renal and metabolic failure. AKI with weight loss and fractures requires urgent PTH and calcium screening. Resection with aggressive electrolyte management is the only way to arrest multi-organ decline.

LITERATURE

1. Walker, M. D. Primary hyperparathyroidism / M. D. Walker, S. J. Silverberg // *Nature Reviews Endocrinology*. – 2018. – Vol. 14, № 2. – P. 115–125.
2. Epidemiology, Pathophysiology, and Genetics of Primary Hyperparathyroidism / S. Minisola, A. Arnold, Z. Belaya [et al.] // *J Bone Miner Res*. – 2022. – Vol. 37, № 11. – P. 2315–2329.
3. Diagnosis and management of primary hyperparathyroidism with urolithiasis / G. Wang, X. C. Zhang, B. N. Pan, Y. Q. Na // *Zhonghua Yi Xue Za Zhi*. – 2005. – Vol. 85, № 9. – P. 618–620.
4. Guidelines for the Management of Asymptomatic Primary Hyperparathyroidism: Summary Statement from the Fourth International Workshop / J. P. Bilezikian, M. L. Brandi, R. Eastell [et al.] // *Journal of Clinical Endocrinology and Metabolism*. – 2014. – Vol. 99, № 10. – P. 3561–3569.
5. Remission of primary hyperparathyroidism after fine needle aspiration of a parathyroid nodule mistaken for a thyroid nodule / E. M. M. Silva, R. A. C. Ferreira, B. A. R. Marques [et al.] // *Archives of Endocrinology and Metabolism*. – 2023. – Vol. 67, № 6. – Art. e000615.

DIAGNOSTIC CRITERIA FOR HEPATOSIS IN PATIENTS WITH OVERWEIGHT OR OBESITY AND ARTERIAL HYPERTENSION

Ravikumar Rajintha, Ashok Kumar Sherone

Grodno State Medical University

Scientific supervisor: PhD, Assoc. Prof. Lakotko T. G.

Relevance. Hepatosis presents in patients with overweight or obesity [1]. These conditions lead to metabolic imbalances that cause to liver fat buildup and inflammation, potentially declining the liver to severe liver damage if left undiagnosed [2]. Excess weight and metabolic disorders are also risk factors for the development of arterial hypertension (AH). The coexistence of both conditions can have a mutually aggravating effect and lead to more pronounced liver changes in these patients

Target. To explore and refine the diagnostic criteria for hepatosis in patients with overweight or obesity and AH.

Research methods. The study was conducted at the State Healthcare Institution «City Clinical Hospital N 2 of Grodno». A comprehensive analysis was carried out involving 73 patients with arterial hypertension and overweight or obesity (mean age – 49.8 ± 7.7 years). The patients were divided into groups by gender: Group 1 – 49 male patients and Group 2 – 24 female patients. The groups were comparable by age and BMI. We measured neck, waist, and hip circumferences and ratios. Additionally, the following indices were calculated: FIB 4 index, lipid accumulation product (LAP), visceral adiposity index (VAI), body adiposity (BA), abdominal volume index (ABI), body roundness index (BRI), hepatic steatosis index (HSI). The obtained data were processed using nonparametric statistical methods. The data in the work are presented as Me (25% and 75%). The level was considered reliable at $p < 0.05$.

Results and discussion. According to analysis, men exhibit a significantly larger waist circumference (110 (102; 116) cm) than women (99 (94,5; 104) cm, higher waist-to-hip ratio (men – 0,96 (0,95; 1); women – 0,85 (0,80; 0,94), $p < 0.05$). It can