Emphysematous Pyelonephritis in a Diabetic Patient with Hyperparathyroidism

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A 57-year-old diabetic woman was referred to hospital for high fever. Her HbA1c was 8.7% and white blood cell was 23,300/μL. Urinalysis suggested urinary tract infection. Computed tomography revealed a markedly enlarged right kidney with parenchymal gas and obstruction of the right ureter by a stone (Picture 1). After a right nephrectomy, she showed hypercalcemia (11.2 to 11.8 mg/dL) and an elevated intact parathyroid hormone level. The left lower parathyroid gland was enlarged (Picture 2) and uptake of 99mTc-methoxyisobutylisonitrile to that gland was increased (Picture 3). She also had primary hyperparathyroidism (PHPT). Parathyroid adenoma was subsequently resected.

Emphysematous pyelonephritis is a severe infection that predominantly affects female diabetic patients, although it is also seen in non-diabetics with urinary tract obstruction (1). PHPT is a known risk factor for nephrolithiasis and thus parathyroidectomy is recommended in patients with renal calcification (2). This case highlights the importance of being aware of the possibility of asymptomatic PHPT in daily practice.
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References