Clinical case of chronic calcific pancreatitis in a patient with primary hyperparathyroidism caused parathyroid carcinoma

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Introduction

Parathyroid carcinoma is a rare cause of primary hyperparathyroidism (PHPT) and is usually presented with severe hypercalcemia and parathyroid hormone (PTH) elevation. Hypercalcemia can lead to calcification of parenchymatous organs, including pancreas, and acute or chronic pancreatitis.

Case description

A 46-year-old woman was admitted to the endocrine surgery department of our institution with severe weakness, appetite and weight loss (25 kg in a year), abdominal and joint pain, apathy, skin dryness. Laboratory tests: PTH **2517.4** pg/ml (11-62), total serum calcium **3.36** mmol/l (2.2-2.6), ionized serum calcium **2.14** mmol/l (1.12-1.32), amylase **1280** U/L (<100). Neck US: left lobe of thyroid gland is presented with a heterogenous nodule with cystic degeneration, 5.0x3.0x3.5 cm. Neck CT-scan (Fig. 1): a 37x26x51 mm mass near the back margin of left thyroid lobe, 53 HU density in the native examination, 64 HU in the arterial phase of contrast examination and 50 HU in the venous phase. The upper pole of the tumor is located at the thyroid cartilage, the lower pole of the tumor is in the mediastinum.

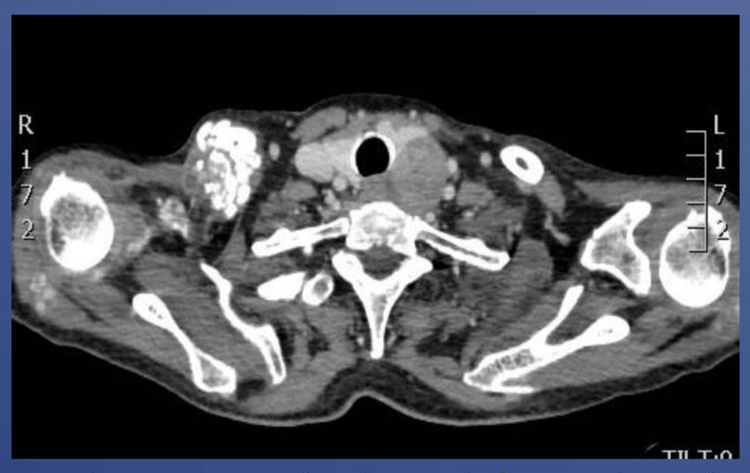

Figure 1. Neck CT-scan with a lower left parathyroid gland tumor

Abdomen CT-scan (Fig. 2): pancreas is located normally, with uneven margins and multiple calcifications. A 12 mm cyst in the body of pancreas and a cyst of irregular shape in the tail with thick calcificated border (78x46x48 mm) are detected. Pancreatic duct is not dilated.

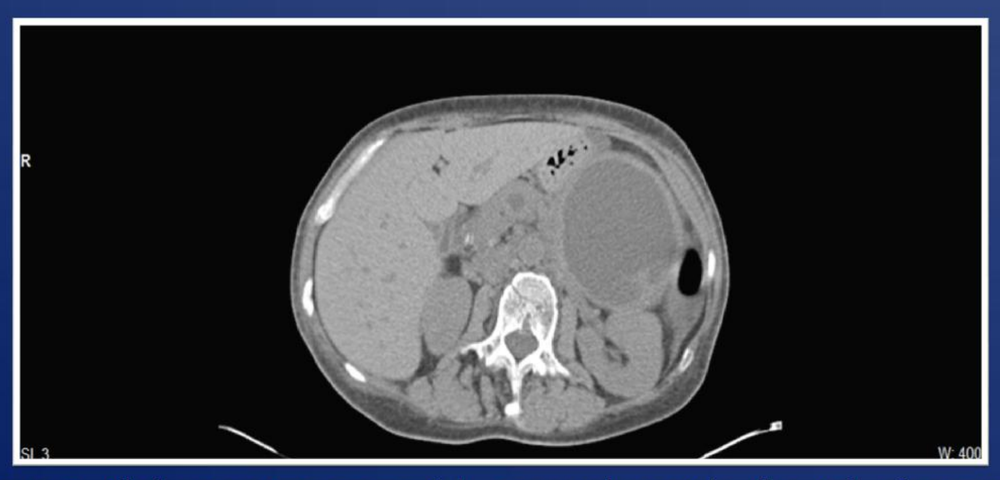

Figure 2. Abdomen CT-scan with a pseudocyst in the tail of pancreas

At first, parathyroid tumor resection and hemithyroidectomy were performed. After the surgery PTH lowered to 193 pg/ml and hypocalcaemia (total Ca 1.91 mmol/l, ionized Ca 0.94 mmol/l) occurred, treated with calcium and vitamin D supplement. Parathyroid carcinoma was confirmed by histology (Fig. 3).

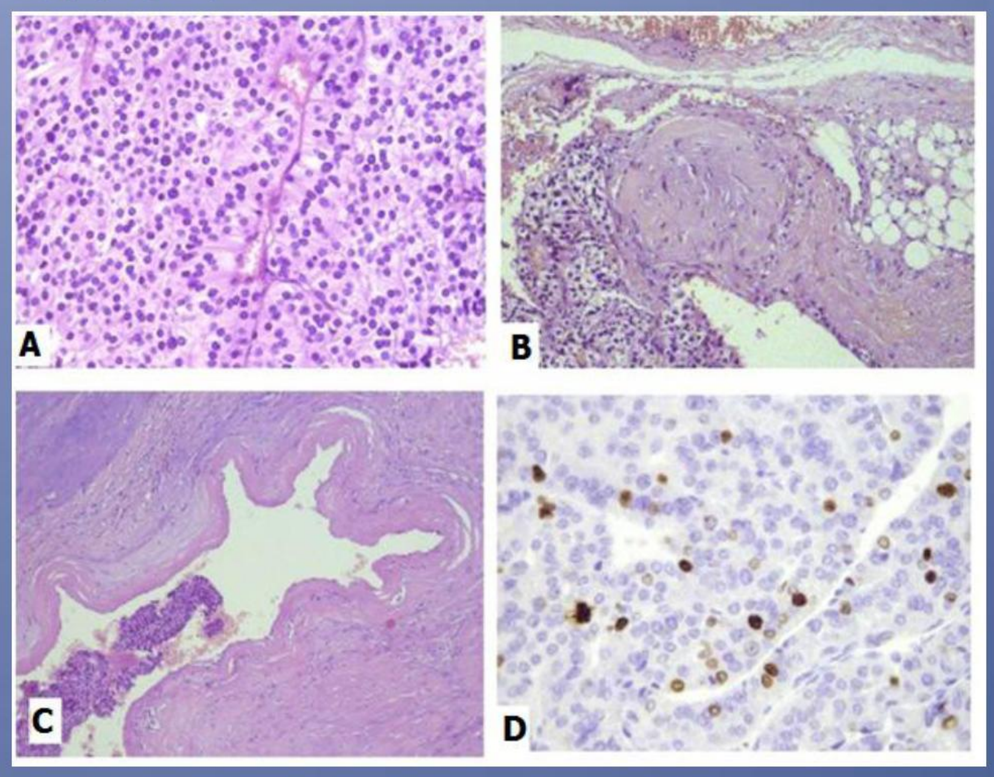

Figure 3. A. Parathyroid gland cancer (H-E, x400) B. Perineural invasion (H-E, x200) C. Vascular invasion (H-E, x100) D. IHC x400: Ki67 – 12%

2 months later subtotal distal pancreatectomy and splenectomy were performed. 3 months after the treatment the patient's health improved, abdominal pain disappeared and she gained 5 kg. PHPT is not persisting.

Conclusion

This case report shows that chronic calcific cystic pancreatitis can develop on the background of hypercalcaemia and improve after parathyroid tumor resection. We suggest that serum calcium and PTH should be measured in all patients with non-alcoholic and non-biliary pancreatitis for PHPT diagnostic and pancreatitis should be diagnosed in all patients with PHPT.

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