中文題目：一例罕見的以急性胰臟炎做為臨床表現的副甲狀腺瘤病例

英文題目：A rare case of parathyroid adenoma presented with acute pancreatitis

作　　者：江承翰[1]，彭渝森[1]

服務單位：[1]亞東紀念醫院內科部

Case report

A 38-year-old male patient, non-alcoholism, presented at emergency room with abdominal pain for 4 days. His abdominal pain located at right upper quadrant and radiated to right flank. He also had nausea, vomiting, cold sweating, and near-syncope. Prior to the above symptoms, bilateral ureter stones presented with gross hematuria was noted several months ago. The physical examination showed poor mental response, a mass lesion at left suprasternal area, and epigastric area tenderness. The electrocardiogram showed sinus tachycardia and diffuse Osborn wave [Figure 1]. The initial blood tests showed leukocytosis(WBC: $24.53\times10^3/\mu L$), metabolic acidosis(pH 7.192, HCO_3^- 15.7 mmol/L), elevated serum creatinine (2.49 mg/dL) and lipase (3702 IU/L). Abdomen computed tomography scan showed necrotizing pancreatitis (CTSI score 6) [Figure 2]. He was endotracheal intubated because of coma and admitted to medical intensive care unit. The follow-up biochemical studies showed Ranson criteria 6 after 48 hours and severe hypercalcemia, serum total calcium 19.2 mg/dL. The intravenous saline hydration and medical treatment did not correct hypercalcemia, so hemodialysis therapy was done. The radioimmunassy showed serum intact parathyroid hormone (iPTH) 1398 pg/ml. Neck computed tomography scan found a 3.2cm cystic mass at the left lobe of thyroid gland [Figure 3]. Technetium-99m methoxyisobutylisonitrile parathyroid scan disclosed this lesion being a parathyroid adenoma [Figure 4]. After surgical parathyroidectomy, patient's serum calcium level became normalized soon. The dialysis therapy stopped and he was discharged smoothly after completion of treatment.

Figure 1

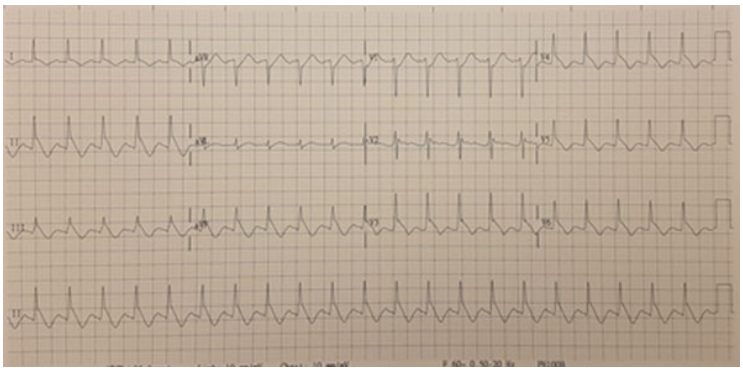


Figure 2

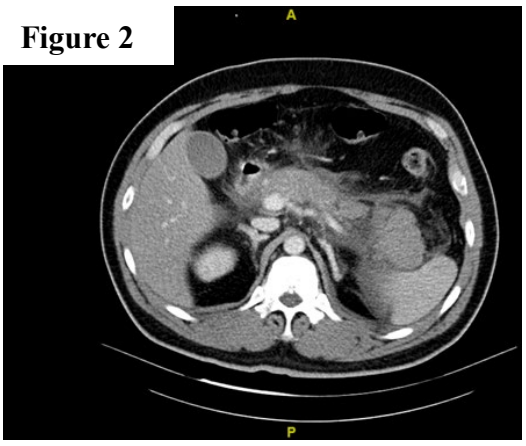


Figure 3

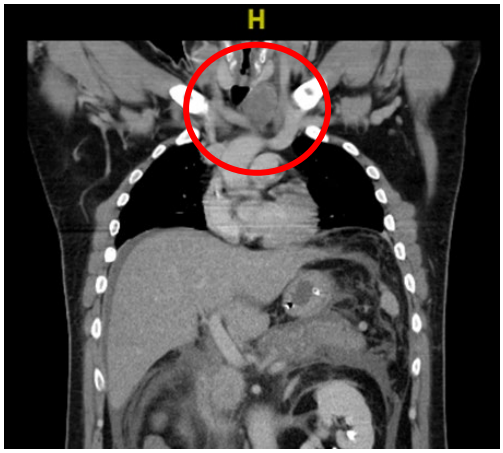
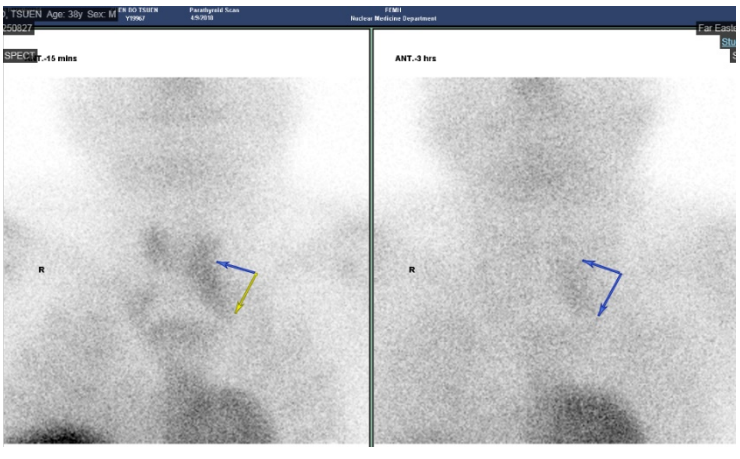


Figure 4



Discussion

This is a rare case of parathyroid adenoma presented with acute pancreatitis. The cause of triggering acute pancreatitis is severe hypercalcemia which caused by hyperparathyoridsim. The etiology of hypercalcemic pancreatitis showed about 0.4% [1]. However, patients with hyperparathyroidism and fluctuated hypercalcemia could increase 10-20 times of risk than general population to suffer from acute pancreatitis. The reason why hypercalcemia leads to pancreatitis is that serum calcium accelerate intrapancreatic conversion from trypsinogen to trypsin, which induced the pancreatic damage [2].

Primary hyperparathyroidism, are most commonly caused by single or multiple parathyroid adenoma (80%). Second is hyperplasia of parathyroid glands (≧4 gland) (15-20%) and rarely parathyroid cancer (2%) [3, 4]. In general, pancreatitis would induce hypocalcemia [5]. As result, hypercalcemia with acute pancreatitis is a strong indicator for diagnosis of hyperparathyroidism [5, 6]. In this case, this patient's symptoms and signs are not prominent to suspect hypercalcemia. However, bilateral nephrolithiasis is the most significant hint to indicate hypercalcemia [6].

The combination of chest/neck CT scan or MRI, with Tc-99m sestamibi scintigraphy could make precise location and provide mapping for surgeon. On the other hand, double image minimize re-operation rate for recurrent hyperparathyroidism. The combination of both image exam reaches 100% sensitivity and 97.4% specificity for the diagnosis of primary hyperparathyroidism [7].

In conclusion, the rare association of hypercalcemia and acute pancreatitis strongly suggests the hyperparathyroidism being the etiology. Inclusion of serum calcium in the initial work-up of patients with acute pancreatitis is necessary.

Reference

1. Prinz RA, Aranha GV. The association of primary hyperparathyroidism and pancreatitis. *Am Surg*. 1985; 51: 325–329
2. Abdullab M. Pancmatitis in primary hyperparathyroidism. *Med J Malaysia*. 2003; 58: 600–603.
3. Ewing P, Hardy JD. The mediastinum. In: Bane AE, Geha AS, Hammond GL, Laks H, Naunheim KS, editors. Vol. 1. Appleton and Lange; Connecticut: 1991. pp. 569–594. (Glenn's Thoracic and Cardiovascular Surgery)
4. Praker DL. Update on the management of parathyroid tumors. Carr Opin Oncol. 2000; 12: 41–48.
5. Nikolaidis LA, Leon MN, Paslidis NJ. Acute pancreatitis as the first manifestation of hyperparathyroidism in an otherwise asymptomatic patient. *J Ark Med Soc.* 1995; 92: 273–275.
6. Katoh H, Kojima T, Shimozawa E. Chronic calcifying pancreatitis associated with primary hyperparathyroidism. *Jpn J Surg*. 1990; 20: 704–706.
7. Lumachi P, Tregnaghi A, Zucchetta P. Technetium-99m sestamibi scintigraphy and helical CT together in patients with primary hyperparathyroidism: a prospective clinical study. *Br J Radiol*. 2004; 77: 100–103.