

Recurrent Acute Pancreatitis: A Diagnostic Clue to Primary Hyperparathyroidism

Dear Editor,

Acute pancreatitis induced by hypercalcemia due to primary hyperparathyroidism (PHPT) is a very rare condition, and its prevalence is estimated to be between 1.5% and 7%.¹ Studies from India report an incidence between 6.8% and 12%.² However, in patients with PHPT and resulting hypercalcemia, pancreatitis occurs 10 to 20 times more often than in the general population. Normally, hypocalcemia is expected during an attack of acute pancreatitis and hypercalcemia is a strong clue for suspecting PHPT. Hence, elevated serum calcium associated with pancreatitis should alert the physician to either hyperparathyroidism or malignancy.³ The metabolic causes of acute pancreatitis include diabetic ketoacidosis, hypertriglyceridemia, and hypercalcemia with or without hyperparathyroidism.⁴ Gallstones and alcoholism are the commonest etiological agents of pancreatitis in India. Serum calcium is not routinely measured in all patients diagnosed with the first attack of acute pancreatitis as it is not the common cause. Some patients suffer from 2 or more attacks of pancreatitis before the diagnosis of PHPT.

We describe a 40-year-old female patient who presented to a gastroenterology unit with severe upper abdominal pain, vomiting, and fever of 3 days' duration. She had a similar episode of symptoms 2 months previously, for which she was admitted to a civil hospital, where she was diagnosed as a case of acute pancreatitis and was managed conservatively and discharged after 7 days. No additional risk factors causing acute pancreatitis such as alcohol consumption, hyperlipidemia, and gallstones were present. She had a history of cholecystectomy 1.5 years earlier for stone. After proper evaluation, a diagnosis of post-cholecystectomy acute pancreatitis was made, and the patient was managed conservatively. Within the next 5 months, she was again admitted with dyspeptic symptoms and pain in the abdomen of 20 days' duration. On examination, the abdomen was soft with diffuse tenderness, especially in the right hypochondrium. The clinical picture was suggestive of acute pancreatitis. Investigations revealed serum amylase of 1772 IU/L, serum lipase of 86 IU/L, serum alkaline phosphatase of 104 IU/L, serum albumin of 3.84 g/dL, and total serum cholesterol of 128 mg/dL. During the first 2 episodes of pancreatitis, serum calcium was not estimated; and during the third episode, serum calcium was 12.4 mg/dL and serum phosphorus was 2.3 mg/dL. Computed tomography (CT) scan of the abdomen was suggestive of acute edematous pancreatitis (figure 1). After the acute episode of pancreatitis subsided, serum biochemical parameters were repeated. Repeat serum calcium was 11.2 mg/dL (reference range=8.7-10.2), and serum phosphorus was 2.7 mg/dL. Repeated serum estimations confirmed persistent hypercalcemia. The initial suspicion of PHPT was confirmed when her intact parathyroid hormone (iPTH) level was found to be 486 pg/mL (reference range=15-68). Ultrasonography of the neck revealed a 3.4×1.2 cm, well-defined, low echogenic mass below the lower pole of the right lobe of the thyroid, which was later confirmed with a radionuclide parathyroid scan (technetium [99 mTc] sestamibi), showing a right inferior parathyroid adenoma (figure 1). PHPT was diagnosed after the third episode of hypercalcemia-induced pancreatitis. After conservative management, she was advised parathyroid surgery but she refused surgical intervention. Later on, she was again admitted with a fourth episode of recurrent pancreatitis and this time she underwent right inferior parathyroidectomy. The histopathological report confirmed the diagnosis, which was consistent with parathyroid adenoma. PTH postoperatively was within the normal range. The postoperative period was uneventful. She was doing very well at 3 months' postoperative

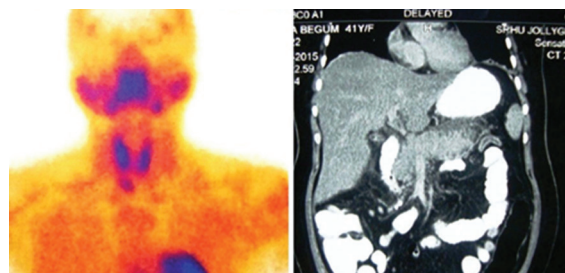


Figure 1: Technetium (99 mTc) sestamibi scan shows increased activity in the right inferior parathyroid, suggestive of adenoma, and the CT scan of the abdomen shows a diffusely enlarged pancreas with an irregular outline.

follow-up, with her pancreatitis resolved clinically and serum calcium returning to normal biochemically. Presently, the patient is asymptomatic, and there was no recurrence of pancreatitis at the latest follow-up.

Conflict of Interest: None declared.

Please cite this article as: Bist SS, Ahuja V, Agrawal V, Modi S. Recurrent Acute Pancreatitis: A Diagnostic Clue to Primary Hyperparathyroidism. *Iran J Med Sci.* 2016;41(4):361-362.

Sampan S. Bist¹, MBBS, MD, MS; Vivek Ahuja², MBBS, MD, DM; Vinish Agrawal¹, MBBS, MS; Sagar Modi³, MBBS, MD, DM

¹Department of ENT, Himalayan Institute of Medical Sciences, SHRU University, Jolly-grant, Doiwala, Dehradun 248140 (Uttarakhand) India;

²Department of Gastroenterology, Himalayan Institute of Medical Sciences, SHRU University, Jolly-grant, Doiwala, Dehradun 248140 (Uttarakhand) India;

³Department of Endocrinology, Himalayan Institute of Medical Sciences, SHRU University, Jolly-grant, Doiwala, Dehradun 248140 (Uttarakhand) India

Correspondence:

Sampan S. Bist, MBBS, MD, DM;
Department of ENT and Head-Neck Surgery, Himalayan Institute of Medical Sciences, SHR University, Jolly Grant, Doiwala, Dehradun (UK) India-248140

Tel: +98 91 9411192856

Fax: +91 13 52471317

Email: sampanbist@yahoo.com

Received: 3 November 2015

Revised: 14 December 2015

Accepted: 10 January 2016

References

1. Egea Valenzuela J, Belchi Segura E, Sanchez Torres A, Carballo Alvarez F. Acute pancreatitis associated with hypercalcemia. A report of two cases. *Rev Esp Enferm Dig.* 2009;101:65-9. doi: 10.4321/S1130-01082009000100009. PubMed PMID: 19335036.
2. Jacob JJ, John M, Thomas N, Chacko A, Cherian R, Selvan B, et al. Does hyperparathyroidism cause pancreatitis? A South Indian experience and a review of published work. *ANZ J Surg.* 2006;76:740-4. doi: 10.1111/j.1445-2197.2006.03845.x. PubMed PMID: 16916398.
3. Agarwal A, George RK, Gupta SK, Mishra SK. Pancreatitis in patients with primary hyperparathyroidism. *Indian J Gastroenterol.* 2003;22:224-5. PubMed PMID: 15030035.
4. Bai HX, Giefer M, Patel M, Orabi AI, Husain SZ. The association of primary hyperparathyroidism with pancreatitis. *J Clin Gastroenterol.* 2012;46:656-61. doi: 10.1097/MCG.0b013e31825c446c. PubMed PMID: 22874807; PubMed Central PMCID: PMC4428665.