

# Sarcoidosis Presenting As Hypercalcemic Pancreatitis

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## Citation

S Gaur. *Sarcoidosis Presenting As Hypercalcemic Pancreatitis*. The Internet Journal of Academic Physician Assistants. 1999 Volume 2 Number 2.

## Abstract

Sarcoidosis is a multisystem disease of unknown etiology and protean manifestations. Pancreatic involvement is unusual with only a few case reports in the literature. Granulomatous infiltration is the usual cause. This case report describes an unusual presentation of sarcoidosis as hypercalcemic pancreatitis.

## Acknowledgements:

The author acknowledges the constructive criticism offered by Dr. Timothy Sorg and Dr Vani Shukla in preparing this manuscript.

## INTRODUCTION

Hypercalcemia is a well-established cause of acute pancreatitis. In most of the reported cases, hypercalcemia is secondary to either hyperparathyroidism or malignancy. This is the first case report clearly describing hypercalcemia induced pancreatitis as the initial presentation of sarcoidosis.

## CASE REPORT

A 49-year-old African American female presented to our institution with complaints of abdominal pain, nausea and vomiting. She had a past medical history of type II diabetes mellitus, hypertension and bronchial asthma. Her medications included metformin, enalapril and salbutamol inhaler. She had undergone a cholecystectomy 18 years ago for gallstones. She was a non-smoker and a non-alcoholic.

Physical examination showed an obese female in significant distress secondary to abdominal pain. Her vital signs, with the exception of resting tachycardia, were stable. She had multiple non-tender, firm, freely mobile lymph nodes in her neck the largest being 2 cm x 2 cm in size. Her chest exam showed decreased air entry bilaterally with inspiratory, & expiratory wheezing. Her abdomen was tender in the epigastric and periumbilical regions. There were no peritoneal signs. Rest of the physical exam was within normal limits. Serum amylase was 810 IU/L (16-108) and serum lipase was 642 IU/L (23-300). Serum calcium was

11.6mg /dl (8.5-10.4). Other routine labs, including serum triglycerides were within normal range. Contrast enhanced computed tomography (CT) of the abdomen confirmed non-necrotizing pancreatitis. There was no pancreatic calcification detected. The patient was admitted with a diagnosis of hypercalcemia induced pancreatitis and treated with intravenous hydration and narcotic analgesics. Further investigations for her hypercalcemia showed a serum PTH (para-thyroid hormone, intact) of 4 ng/l (12-82) and an elevated serum angiotensin converting enzyme (ACE) level of 375 IU/L (8-52). Serum electrophoresis revealed polyclonal gamma-globulinemia. Cervical lymph node biopsy showed multiple non-caseating granulomas. A high resolution CT scan of the chest showed pulmonary fibrosis with no hilar adenopathy. Pulmonary function tests were consistent with moderately severe interstitial and obstructive disease. Flexible bronchoscopy showed a nodular, erythematous airway mucosa. Biopsy of these lesions revealed non-caseating granulomas. Fungal & acid-fast bacilli (AFB) stains were negative in the biopsy specimens. A tuberculin skin test was non-reactive while controls with candida and mumps antigen were positive.

On the basis of histopathological findings, elevated ACE levels and by excluding other granulomatous diseases, a diagnosis of sarcoidosis was made. The patient was started on oral steroids and continued on her outpatient medications. Her abdominal pain resolved and she noted significant improvement in her respiratory symptoms. Two months later, she remains symptom free with serum calcium & ACE levels back to normal.

### **DISCUSSION**

The diagnosis of acute pancreatitis in this patient was established on the basis of her symptoms, elevated amylase and lipase levels and the CT demonstration of pancreatic inflammation. She denied any alcohol use and had a cholecystectomy done 18 years ago. Her triglycerides were within normal limits. Although enalapril has been associated with pancreatitis, this patient had been on it for 5 years with no complications. With the exception of hypercalcemia, she did not have any other precipitating factor for pancreatitis.

The presence of cervical lymphadenopathy along with low level of serum PTH led to the initial suspicion of malignant hypercalcemia. However, the histopathological presence of noncaseating granulomas, exclusion of other granulomatous diseases and the presence of elevated ACE levels established the diagnosis of sarcoidosis. Chronic pancreatitis as a complication of sarcoidosis has been reported in the literature [1,2]. Infiltration of the pancreas by non-caseating granulomas is the usual cause. Cases of acute idiopathic pancreatitis in patients previously diagnosed with sarcoidosis have also been reported [3]. In general these patients had normal serum calcium levels and responded dramatically to steroids. They probably also had granulomatous infiltration of the pancreas. Hypercalcemia

induced pancreatitis has been reported in patients with sarcoidosis following sun exposure [4,5]. However, some of these patients had additional risk factors for pancreatitis in the form of alcohol abuse. Also, sarcoidosis had been previously diagnosed in these patients before the development of abdominal symptoms. To the best of our knowledge there has been only one reported case in which acute hypercalcemic pancreatitis was believed to be the initial manifestation of sarcoidosis [4]. However the case report did not mention whether other etiologies of pancreatitis and noncaseating granulomas were excluded.

In summary, we describe what is probably the first case report in the English language literature of sarcoidosis presenting as hypercalcemic pancreatitis.

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