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Omental Mass Caused by Pericolic Vegetable Granuloma: A Rare Case Report

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Introduction: Foreign materials typically produce a reaction by multinucleated giant cells. Foreign bodies (such as vegetable cells in food material) in the omentum have not been reported to produce an omental mass. Vegetable cells surrounded by foreign body giant cells called vegetable granuloma/pulse granuloma by the previous literature are a peculiar type of granuloma caused by vegetable plant cells.
Case Presentation: Here in we present our experience with an old age lady who was operated with the impression of gastric mass. During the surgery no gastric mass was found but several omental masses were detected. Pathological study of the resected masses showed only vegetable cells in the omentum surrounded by an extensive foreign body giant cell granulomatous reaction, some of which were hyalinized. To the best of our knowledge such situation has not been reported in the English literature thus far.
Conclusions: In a patient with several omental granuloma, both in surgery and pathological examination, foreign body granuloma should be considered as a possible differential diagnosis.

Keywords: Vegetable Granuloma; Omental Mass; Colon

1. Introduction

Granulomatous reactions to vegetable matter have been described in the lung, fallopian tube, ovary, bladder and knees (1). Some of these reactions have been called pulse granuloma, because of the association of vegetable granulomas with hyaline rings (2). The pathogenesis involves a foreign body type reaction to ingested legume parenchymatous cells at various stages of digestion. They are extremely rare in the gastrointestinal tract and have been very rarely reported in the rectum (1) and gall bladder (2). They have not been reported in the omentum.

Herein we present our experience with a patient who was suspected to have a mass in her gastric wall. During the operation, an omental mass was found which turned out to be a foreign body reaction to partially digested vegetable material.

2. Case Presentation

The case under study was a 68-year-old woman with chief complaint of epigastric pain since three months, prior to admission. Physical examination showed no abdominal tenderness. Blood pressure and temperature were normal. Laboratory examination revealed normal complete blood count (CBC). Renal and liver function tests were unremarkable.

The patient's past medical history was unremarkable except for vague and on and off gastrointestinal problems such as abdominal pain and epigastric discomfort for a long time. There was no previous surgery in the patient's history. She was the mother of four children, all by normal vaginal delivery.

Abdominal sonography showed gastric wall thickening and a mass like lesion, measuring 30 × 22 mm. Abdominal CT scan showed gastric wall thickening, suggestive of an infiltrative process (Figure 1). Upper gastrointestinal endoscopy showed a normal stomach, esophagus and duodenum. A biopsy was performed with completely normal results.

The patient was scheduled for surgery, with the impression of a gastric mass. Exploratory laparotomy showed thickened regions in the omentum. The stomach was completely normal. Exploration of other parts of the abdomen revealed completely normal physiology. Multiple biopsies from thick parts of the omentum were performed and sent for pathological studies. A fibrofatty tissue was sent to the pathology department. Histopathology showed partially digested vegetable material surrounded by a foreign body giant cell reaction all over the omentum (Figure 2 A, B). The patient was discharged with no further therapy. After the operation, she was well and now after three months, she is completely symptom free.

Figure 1. CT Scan of the Abdomen Showing Increased Gastric Wall Thickness, Suggestive of Infiltrative Process

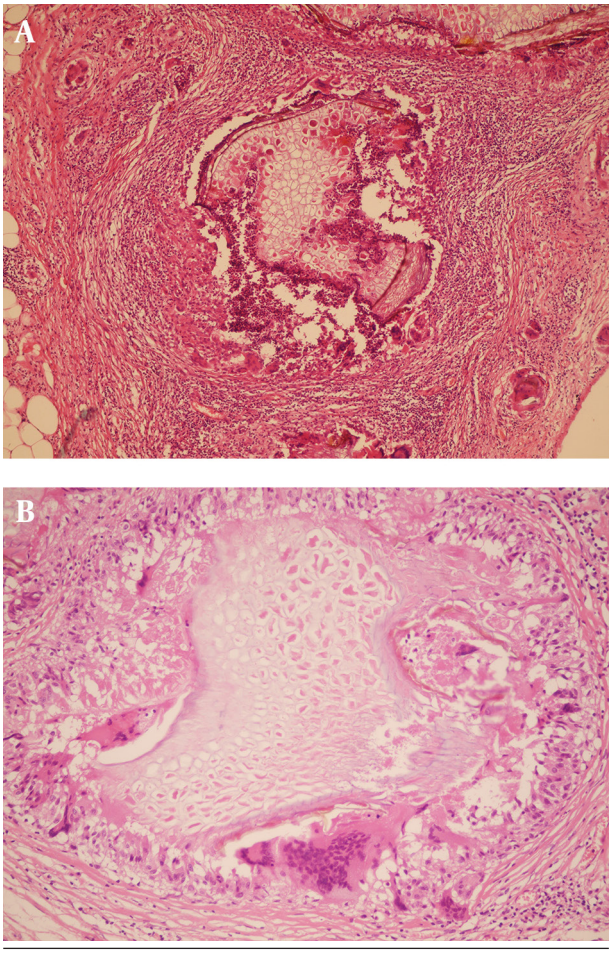

Figure 2. Sections from Omental Mass Showing Vegetable Material Surrounded by an Extensive Foreign Body Giant Cell Reaction (A) H&E X 100, B) H&E X 250

3. Discussion

Vegetable granulomas/pulse granulomas are responses to particles of food (plant) driven into the mucosa by various methods (2). During 1969, Knoblich first described this condition in the lungs, after which most other reported cases have been in the oral cavity (3). One of the theories regarding the pathogenesis of this reaction is exogenous. The origin is a foreign material (pulse and legumes) that has penetrated the oral mucosa or gastrointestinal tract and lungs (4). Vegetable/pulse granuloma has been rarely reported in the gastrointestinal tract such as rectum (1) and gall bladder (2). This peculiar granulomatous condition has also been rarely reported in the wall of the stomach resected from a peptic ulcer patient and diffusely scattered through the peritoneal cavity (5). Most previous cases have occurred in adult male patients (4). The clinical presentation varies, but it mostly presents with pain and discomfort in the involved location (2). Our experience was very unusual, involving an old lady presented with epigastric pain. Upper endoscopy was normal. Computerized tomography (CT) scan revealed a suspected infiltrative process in the gastric wall, which after surgery turned out to be an omental mass and thickening.

The clinical and radiological diagnoses were in favor of an infiltrative process, until a pathological study of the mass revealed food particles surrounded by many giant cells, some of which had been hyalinized.

We suggest that this patient, with a long history of gastrointestinal problem, might have had a gastric ulcer with small perforations and passage of food particles to the omental space producing mass like lesions composed of a foreign body reaction around the partially digested plant material. There are other reported causes of foreign body granuloma in the gastrointestinal tract, for instance retained surgical material of previous surgeries such as talc of the gloves (5) and penetrating ingested materials such as fish bone (6, 7). This condition, although rare, is very important and should be part of the differential diagnosis of omental thickening and mass to avoid unnecessary resections.

Authors' Contributions

Bita Geramizadeh: pathology diagnosis and writing the manuscript. Seyed-Javad Mousavi: sectioning the specimen and collecting the data. Ali-Mohammad Bananzadeh: surgery.

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