

# Tuberculosis of the stomach: report of a case mimicking a gastric cancer

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**Unitermos:** Estômago — Neoplasma. Tuberculose — Estômago.

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**SUMMARY** — It is presented a case of tuberculosis of the stomach with clinical symptoms suggestive of malignancy. The patient was anergic and developed a progressive bilateral caseous tuberculosis. The diagnosis was made at necropsy.

## INCIDENCE

The stomach is very seldom affected by tuberculosis. Broders<sup>(3)</sup> found one case in a series of 2,501 gastric operations in the Mayo Clinic. From the same clinic, Good<sup>(5)</sup> reported an incidence of 0.053% of total number of 7,416 gastric surgery. Sullivan et al<sup>(14)</sup> working in the Cook County Hospital, Chicago, found only one case in 75,000 surgical specimens. Palmer<sup>(11)</sup> surveiling the autopsies literature found an incidence of 0.16% in 96,251 routine autopsies, and 0.56% in 205,585 autopsies of patients with pulmonary tuberculosis.

## PATHOGENESIS

Broders<sup>(3)</sup> believed that the stomach could be infected with tuberculosis by at least four routes: 1) the mucosa (direct infection); 2) the blood stream; 3) the lymphatic system; 4) by continuity and contiguity. Good<sup>(5)</sup> agreed with the above quoted, but said also, that frequently the mode of infection was indeterminate. He did not believe that a primary tuberculosis of the stomach has ever been seen.

## PATHOLOGY

Broders<sup>(3)</sup> after a thorough review of the literature found that gastric tuberculosis could be divided into 6 types as follows: 1) ulcer (single or multiple); 2) miliary tubercle; 3) solitary nodule (tuberculoma); 4) pyloric stenosis; 5) tumor or nodule (single or multiple); 6) lymphangitis. In 1921, Biernath quoted by Palmer<sup>(11)</sup> classified the gross tuberculous lesions of the stomach in: 1) multiple small mucosal erosions; 2) ulcers; 3) an infiltrating tumorous (hypertrophic) form; 4) a sclerosing inflammatory form; 5) an acute miliary dissemination; 6) pyloric obstruction, either by extragastric compression or by extension from other neighbouring organs. Letulle<sup>(6)</sup> described: 1) the miliary tuberculosis of the stomach; 2) ulcerative tuberculosis, that could lead to complications such as fibrocaceous perigastritis; 3) stenosing tuberculosis of the pylorus. Sullivan et al<sup>(14)</sup> distinguished two types: 1) miliary tuberculosis, whereby the stomach contains single caseous tubercles located in the submucosa or on the serosa, and is part of the stage of generalization; and 2) ulcerative tuberculosis which is characterized by numerous shallow, irregularly shaped ulcers with overhanging margins and grayellish bases, that rarely penetrate the muscular layer, and which occasionally cause scarring and shrinking of the stomach, simulating syphilis or carcinoma. The ulcer type is the predominating lesion, being present in 80% of the cases of gastric tuberculosis reported.

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## RELATIONSHIP TO GASTRIC CANCER, ULCER AND GASTRITES

Tuberculosis of the stomach mimics, and it is always confused with the signs and symptoms of gastric ulcer, carcinoma and their complications. However, the simultaneous occurrences of tuberculosis and cancer/ulcer in the stomach is very rare. Good<sup>(5)</sup> could find only one case each, in association with 2,963 operations for gastric cancer and 1,952 operations for gastric ulcer. He concluded that an organic gastric lesion associated with pulmonary tuberculosis is almost bound to be a gastric ulcer or a carcinoma. MacCarty (1943) quoted by Palmer<sup>(11)</sup> found only 2 cases of tuberculosis associated with gastric cancer out of 3,000 gastric carcinoma.

White<sup>(15)</sup> has a different opinion, because he verified that in 10% of 300 cases of gastric tuberculosis reported in the literature, there were associated gastric cancers. Furthermore, he reported that two of ten cases of gastric tuberculosis at the Mayo Clinic had associated gastric carcinoma. Palmer<sup>(11)</sup> reviewing the literature on the subject concludes that the coexistence of gastric tuberculosis and gastric carcinoma is notably common, as compared with coexistent tuberculosis and malignancy elsewhere in the body.

## DIAGNOSIS

Good<sup>(5)</sup> stated that "the accurate clinical diagnosis of tuberculosis of the stomach is difficult, if not impossible. There is nothing distinguishing either the history or the observations on general examination to indicate the tuberculous nature of gastric lesion. An associated active pulmonary lesion can only arise suspicion. Tuberculosis of the stomach is met with at operation just as frequently in subjects in whom no other tuberculous focus can be demonstrated. Of the organic defects of the stomach, as revealed by roentgenray, none is sufficiently characteristic to furnish a diagnosis of tuberculosis of the stomach. With present methods, the disease will continue to be confounded with gastric ulcer and with carcinoma".

Sullivan et al<sup>(14)</sup> presented 4 cases, 3 with active pulmonary tuberculosis but no gastric symptoms and 1 with a clinical diagnosis of cancer, or a possible gastric syphilis. Morris' case<sup>(9)</sup> was diagnosed and operated on as an obstructing pre-pyloric or duodenal ulcer.

Ackerman<sup>(1)</sup> concluded that there are no definite roentgenologic criteria for the diagnosis, but called the attention to the concomitant affection of the duodenum.

Ostrum and Serbes<sup>(10)</sup>, Gaines et al<sup>(4)</sup>, Belikian et al<sup>(2)</sup> and Pinto et al<sup>(12)</sup> were of the same opinion. Ostrum and Serbes<sup>(10)</sup> and Pinto et al<sup>(12)</sup> furthermore, stressed the importance of the presence of fistulae or sinuses.

Stirk<sup>(13)</sup> however stated that radiology had little to offer as an aid to diagnosis. Manten and Harary<sup>(15)</sup> said that a definitive diagnosis is only possible thorough endoscopic or surgical diagnosis.

## CASE REPORT

A 60 years old male was admitted to the Hospital in August, 1985 complaining of continuous and moderate pain and fullness in the right hypochondrium for the past 3 years.

The pain was not related to food or physical effort and not relieved by antacids. He had diarrhoea in the last weeks.

From the last 5 days he complained of total dysphagia to solid foods, being able only swallow liquids.

No vomiting, hematemesis or jaundice. He had significant lost of weight in the last 2 months.

In his past history he was underwent gastrectomy 8 years ago for a gastroduodenal ulcer but no pathological examination was performed.

He had a right limb amputation for gangrene 3 years ago. He was heavy smoker and a chronic alcoholic. There was nothing of importance in his family.

## PHYSICAL EXAMINATION

Revealed and emaciated, dehydrated, patient in a very poor condition. The mucous membrane was slightly pale. No cyanose of the lips and nails. There was no abnormality in the peripheral lymph nodes. The blood pressure varied from 90x60 to 110x90. The temperature shows a spiking curve with the highs at 37.5°C.

*Respiratory and cardiovascular system* — Presence of bilateral diffuse crepitations rales.

*Abdomen* — The liver and spleen or masses were not palpable. Slightly oedema of left lower limb.

## THE LABORATORY FINDINGS WERE AS FOLLOW

Red blood cell count 3,6 millions/ml. Hemoglobin — 60%. White blood cell count 10,300 with 86% neutrophils 2% lymphocytes. Platelets — 112,000. Total serum protein — 5.0gm%; albumin — 2.6gm%; globulin — 2.4gm%. Immunological skin tests: sporotrychin, tri-

cophytin, PPD, DNCB 2,000mg, croton oil 10%-30% were negative — (total anergy).

Radiologic examination of the thorax was performed under difficult conditions, and showed several areas of condensation on both lungs, but more prevalent on the left. The patient's course was progressively downhill and he died after six days in the hospital.

### AUTOPSY

Aged adult white male with cachexia; surgical scars in the supraumbilical midline (10cm) and in right hypochondriac region (5cm) edema of left lower limb; mid-thigh amputation stump. Skull, brain, brain stem and

hypophysis within normal appearances. Neck, not otherwise significant. Thorax: parietovisceral pleural adhesions, more prominent in the left side where the upper lobe is more firmly bound to the chest wall. Septated serofibrinous effusion, 600ml. The left lung weighs 900g and is diffusely consolidated; the cut surface shows a heavy dissemination of white-yellowish nodules, isolated and confluent, with some of them exhibiting central excavation, the largest of them with 4cm in diameter, located in the lower lobe. The left upper lobe bronchus shows a diffuse thickening, made up of a whitish homogeneous tissue (fig. 1). The right lung weighs 500g, and on cut surface shows similar lesions as in the left, but less prominent. The stomach is represented by cardia and fundus, and it is anas-



Fig. 1 — Left upper lobe bronchus showing a diffuse thickening (arrow)

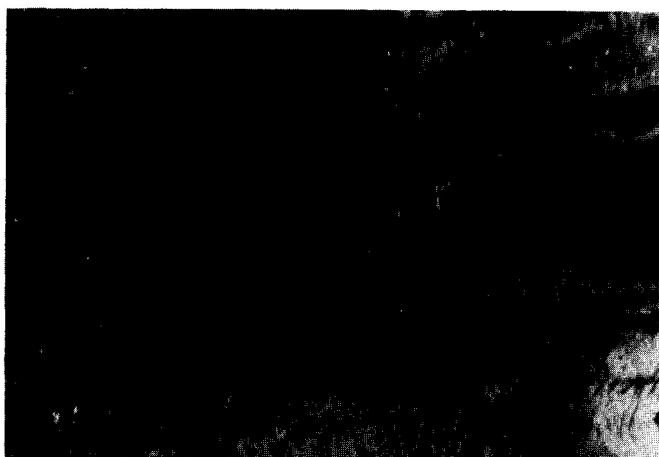


Fig. 2 — Ulceration of the stomach (arrow)

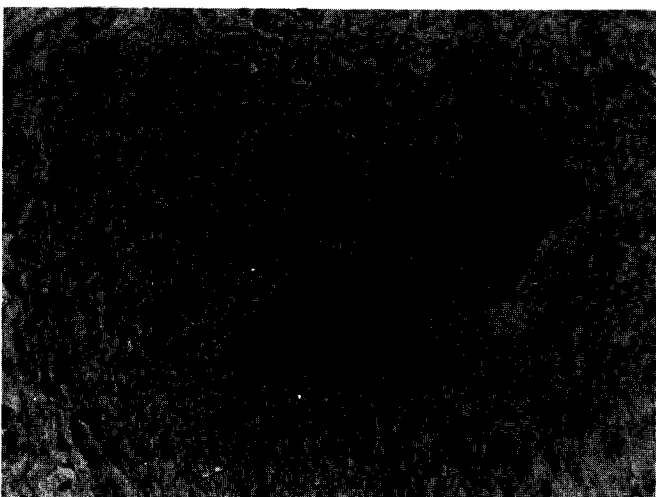


Fig. 3 — Mycobacterium tuberculosis in the gastric lesion (arrow) (Ziehl-Neelsen stain, x1,200).

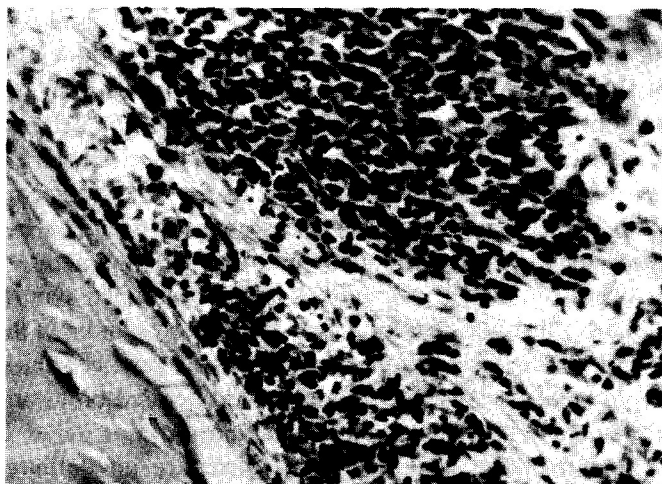


Fig. 4 — Undifferentiated small cell carcinoma of the left upper bronchus (H & E, x400)

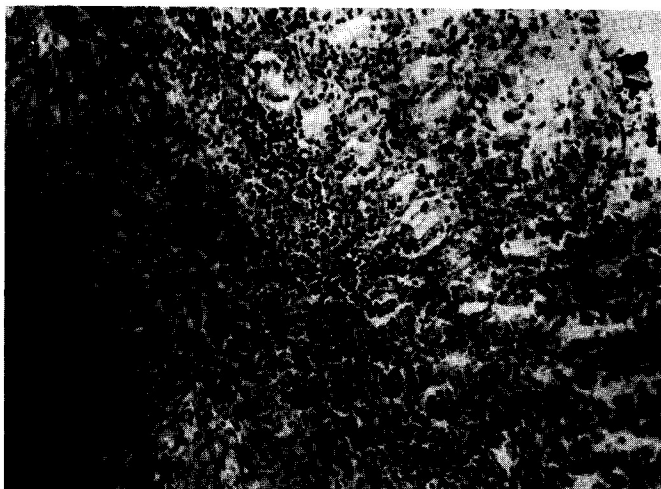


Fig. 5 — Tuberculous caseous lesion of the stomach (H & E, x160)

tomosed with the jejunum. In the posterior wall of the fundus there is a small (1.5 x 1.0cm) ulcer (fig. 2), with overhanging margins, which penetrates deep in the gastric wall leading to perforation. The latter is blocked by the pancreatic lymph nodes are enlarged and contain confluent small caseous nodules.

The microscopic examination reveals confluent caseous bronchopneumonia with positive Ziehl-Neelsen stain for mycobacteria (fig. 3). There are numerous tuberculous arteritis and lymphadenitis. In the left upper lobe bronchus there is an indifferently small cell carcinoma (fig. 4). The gastric ulcer originates in a tuberculous caseous lesion (fig. 5) and shows a deep penetrating fistula (fig. 6) which after opening into free peritoneal space, contaminates the epiploon and pancreatic tissue. Regional lymph nodes are also involved by tuberculous lesions. The gastric and perigastric blood vessels show variable degree of arteritis with partial and total occlusion (fig. 6). Miliary caseous tubercles were found in the liver, spleen, kidneys and various abdominal lymph nodes. A small carcinomatous metastasis was found in the liver. The central nervous system was free of lesions.

#### FINAL DIAGNOSIS

Bilateral diffuse tuberculous caseous bronchopneumonia with hematogenous and lymphogenous dissemination. Tuberculous ulcer of the stomach perforated and tamponated by the epiploon and pancreatic tail. Undifferentiated small cell carcinoma of the left upper lobe bronchus with a solitary metastasis to the liver.

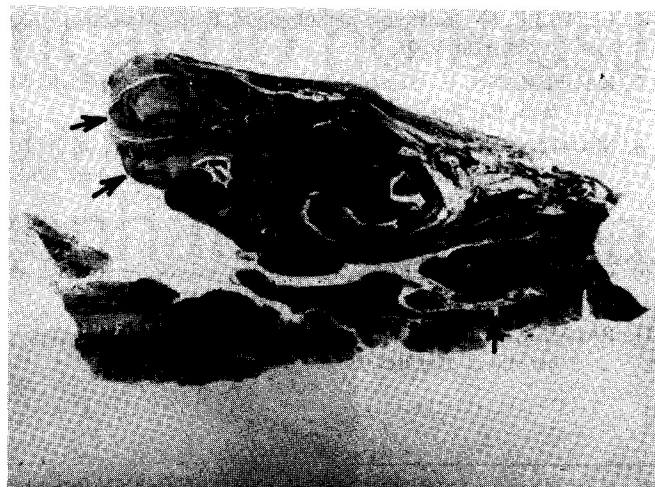


Fig. 6 — Panoramic view of the microscopic section of the stomach showing tuberculous fistula (arrow) and arteritis (upper left corner)

#### COMMENTS

This patient with an obvious anergy, developed a progressive bilateral caseous tuberculosis, with hematogenous and lymphogenous spread, which led to a tuberculous gastric ulcer. The latter perforated into the peritoneal cavity and it was blocked. The presenting clinical symptoms were highly suggestive of gastric malignancy with a possible late involvement of the terminal esophagus.

#### RESUMO

*É apresentado um caso de tuberculose gástrica com sintomas e sinais clínicos de malignidade. O paciente apresentou-se anérgico e desenvolveu tuberculose caseosa bilateral progressiva. O diagnóstico foi feito na necrópsia.*

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## Congressos e Cursos

- 12/08/89 — 1ª Jornada de Atualização dos Tumores do Aparelho Digestivo, Centro de Estudos da Fundação Antônio Prudente, São Paulo.
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