

Pulmonary tuberculosis and peptic ulcer disease association in geriatric patients

Abstract

The geriatric population is predisposed to the development of pulmonary tuberculosis (PT), both by endogenous and exogenous factors. Regarding for peptic ulcer disease (PUD) in this same age group, the clinical manifestations are related to the loss of weight and to the depreciation of the general state; a situation that provokes reactivation of PT, causing a more severe clinical picture, not only due to the association of the two pathologies, but also by the age group itself. In this case report, we present a 97-year-old woman with an unexpected association of pulmonary tuberculosis and DUP.

Keywords: pulmonary tuberculosis, peptic ulcer disease, geriatric population

Volume 6 Issue 2 - 2019

Graça Maria de Castro Viana,¹ Helaine Dias Guimarães,² Saphyra Medeiros Salem,³ Augusto Viana Arouche Santos,⁴ Jamilly Gonçalves Zani⁵

^{1,2,3}Universidade Federal do Maranhão, Brasil

⁴Universidade Ceuma, Brasil

⁵Faculdade Metropolitana da Amazônia, Brasil

Correspondence: Graça Maria de Castro Viana, Universidade Federal do Maranhão (UFMA), Brasil, Tel + 55 (98) 98491-2424, Email gracaviana@globocom

Received: March 08, 2019 | **Published:** March 26, 2019

Introduction

Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis* or Koch's Bacillus (KB). This pathology can be presented in different clinical forms, being pulmonary involvement the most frequently, which can take different clinical-radiological forms: pneumonic, bronchopneumonic, cavitary or atelectatic.

Peptic ulcer disease (PUD) is characterized by a solution of continuity in the gastro duodenal mucosa, with a diameter greater than or equal to 0.5cm. Concerning for the pathogenesis, the gastric hyper secretion can lead to a process of "auto digestion" of its own mucosa that evolves from erosion (injury less than 0.5cm) to ulcer. Several other pathologies, in addition, can determine the appearance of ulcers in the upper gastrointestinal tract, namely gastric cancer, lymphoma, tuberculosis and cytomegalovirus. The present case report describes an elderly patient with pulmonary TB and concomitant gastric ulcer.

Case report

M.E.P.F, 97 years old, living in Itapecuru Mirim (MA), housewife, with a history of an episode of hematemesis 2 months before the hospitalization. A month later, she had a flu-like illness with fever for one week which was treated with antibiotics. Fifteen days later, she

had another episode of hematemesis, being admitted to a Municipal Emergency Room of São Luís, in the state of Maranhão.

She was transferred to Hospital da Mulher with a diagnosis of pneumonia; being initiated clarithromycin associated with ceftriaxone. Thoracic radiography and computed tomography showed a slight reduction of the right lung, consolidation in the apical and posterior segments of the right upper lobe, with areas of extensive excavation; foci and sparse areas in the rest of this medium lobe, lingula and right lower lobe. Diffuse branched centrilobular opacities in the upper lobes and middle lobe, suggesting filling of small airways. Absence of pleural effusion. Mediastinal lymph nodes, the largest, paratracheal, measuring 1.7x1.4cm. Trachea and bronchi sources with preserved caliber (Figure 1). Exams: HIV I / II: non-reagents, AST: 48U / L, Gama GT: 52U / L, Alkaline Phosphatase 148 U / L. Hemogram: Erythrocytes 2.91 million, Hb: 8.7g / gl, Ht: 26.9%, Leukocytes 8570 / mm³ (Neutrophils 81.1%, Lymphocytes 13.9%, Platelets 500,000 / mm³) dL, VHS: 132mm, BT 0.3 BI: 0.2 BD: 0.1, Creatinine: 0.7, Current Glycemia: 102. Two sputum samples, BK +. Digestive Endoscopy Upper: normal esophagus; stomach: presence of ulcerated lesion approximately 1cm in diameter, located in the anterior wall of the small ankle curvature, rounded, shallow, flat edges and fibrinous fundus.

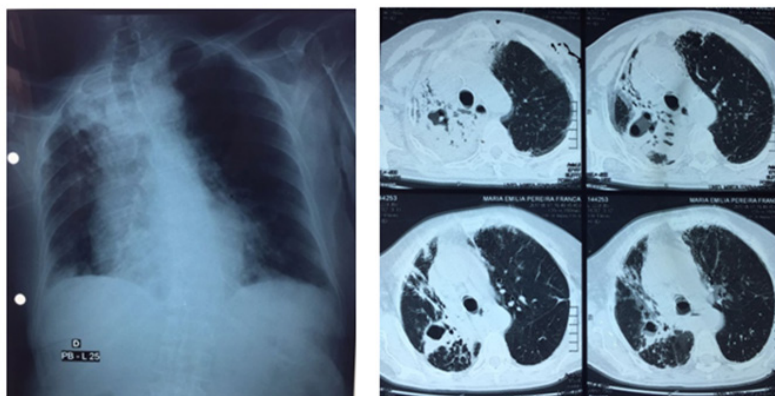


Figure 1 Thoracic radiography and computed tomography showing consolidation in the apical and posterior segments of the right upper lobe, with areas of extensive excavation; foci and sparse areas in the rest of this medium lobe, lingula and right lower lobe.

Discussion

This case report shows pathologies whose association is extremely low in elderly, which makes it a singular and relevant finding for the scientific community. The geriatric population is predisposed to the development of TB, and the endogenous reactivation of quiescent residual bacillary foci accounts for 90% of the cases, making it an important cause of disease maintenance in the community. There are some factors related to this situation, namely: immunological mechanisms inherent to her age that lead to infection or reactivation, use of immunosuppressive drugs, chemotherapy, or other chronic diseases, including peptic ulcer.^{1,2}

Epidemiologically, in Europe, approximately 80% of people infected with the TB are 50 years or older. In Brazil, despite few data, it is known that the incidence of the disease has grown among older individuals and the tendency is that, with the aging of the population, there is a proportional increase in the age group of patients over 60 years, which already represent 12% of the total cases reported in Brazil.^{2,3}

Due to the specific clinical characteristics of the elderly that distinguish them from young adults, there is a need for a differentiated approach in the diagnosis and treatment of the diseases that affect them. Bacteriology continues to play a fundamental role in this process, as it allows, through the knowledge of the various aspects of bacillus biology, its correct identification. In Brazil, the analysis of the material is made, especially, from the collection of sputum samples. However, radiographs and biopsies of the lesions may be necessary in some cases.³⁻⁵ Excavation areas in the upper right lobe, found in the computed tomography of the patient, can be justified as a sequela of pulmonary tuberculosis and consequent hemoptysis, which could better explain the occurrence of reported bleeding and not hemathema.⁶

In about 70% of the cases, the PUD occurs between 25 and 64 years of age, with the most common gastric lesions among the oldest population, with a peak incidence in the sixth decade of life. The chronic presence of some cofactors may determine the onset of the disease, such as *Helicobacter pylori* infection and chronic use of non-steroidal anti-inflammatory drugs, however, these were not identified in the case under discussion.⁷

Regarding symptomatology, the epigastric abdominal pain, in burning sensation, food-triggered, or hours after the meal is the main clinical manifestation. In the elderly population, dietary slimming secondary to fear of eating, in addition to the “anti-ulcer diet”, is often poor in micronutrients, vitamins and high quality proteins, which can

limit the intake of food and contribute to the reduced immunity and increased susceptibility to any infection, especially tuberculosis.^{8,9}

In conclusion, a case of an elderly patient with an association of pulmonary TB and PUD was presented. This is an unusual event, but when present, potentially serious. We postulated that the patient in question had tuberculosis reactivation secondary to immunocompromising caused by the PUD.

Conclusion

lower 1/3 ulcer of the stomach.

Acknowledgments

None.

Conflicts of interest

The authors declare no conflicts of interest.

References

1. World Health Organization. Global tuberculosis report 2013. World Health Organization, 2013.
2. Sulis G, Alberto Roggi, Alberto Matteelli, et al. Tuberculosis: epidemiology and control. *Mediterr J Hematol and Infect Dis*. 2014;6(1).
3. Millet JP, Antonio Moreno, Laia Fina, et al. Factors that influence current tuberculosis epidemiology. *Eur Spine J*. 2013;22(Suppl 4):539–548.
4. Orme, IM . A new unifying theory of the pathogenesis of tuberculosis. *Tuberculosis*. 2014;94(1):8–14.
5. Machado AC, Steffen RE, Oxlade O, et al. Factors associated with delayed diagnosis of pulmonary tuberculosis in the state of Rio de Janeiro, Brazil. *J Bras Pneumol*. 2011;37(4):512–520.
6. Panda A, Bhalla AS, Goyal A. Bronchial artery embolization in hemoptysis: a systematic review. *Diagn Interv Radiol*. 2017;23(4):307–317.
7. Oliveira AF et al. Estimativa da prevalência e da mortalidade por complicações da úlcera péptica, Brasil, 2008: uma proposta metodológica. *Epidemiol Serv Saúde*. 2015;24(1):145–154.
8. Perez-Aisa MA, D Del Pino, M Siles. et al. Clinical trends in ulcer diagnosis in a population with high prevalence of *Helicobacter pylori* infection. *Aliment Pharm & Ther*. 2005;21(1):65–72.
9. Higuchi T, Iwakiri R, Hara M, et al. Low-dose aspirin and comorbidities are significantly related to bleeding peptic ulcers in elderly patients compared with nonelderly patients in Japan. *Intern Med*. 2014;53(5):367–373.