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Review Article

Could Sars-Cov-2 Reactivate Latent Pulmonary Tuberculosis?

Amine Elmoqaddem[1,a], Reda Belghoul[2,a], Jalal Elbenaye[3,a], Hamza Belatik[4,a*], Karim Nadour[5,a]

[1]Department of emergency, Moulay Ismail Military Hospital, 50000, Meknes, Morocco
[2]Department of pneumology, Moulay Ismail Military Hospital, 50000, Meknes, Morocco
[3]Department of dermatology, Moulay Ismail Military Hospital, 50000, Meknes, Morocco
[4,5]Department of otolaryngology, Moulay Ismail Military Hospital, 50000, Meknes, Morocco
[a]Faculty of medicine and pharmacy, Sidi Mohamed Ben Abdellah University, 30000, Fes

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***Corresponding Author:** Belatik Hamza

Abstract

Sars-Cov-2 could occur in active tuberculosis patients; with risk of aggravation, could also reveal tuberculosis or infect former tuberculosis patients.

Keywords: tuberculosis; SARS-CoV-2; aggravation.

INTRODUCTION

Tuberculosis and Covid-19 share many similarities: both are infectious diseases, mainly affecting the lungs with a similar symptomatology, are contagious, fatal and pandemic with a heavy public health burden. Their association seems much underreported than rare [1]. In Morocco; country still endemic for tuberculosis; this coinfection is redoubtable, especially if it is a possible reactivation of a former tuberculosis by Sars-Cov-2.

A 59 years old woman, with past history of treated pulmonary tuberculosis 15 years earlier, taking metformine for a diabetes mellitus, was admitted in emergency department for fever (38,7°C), non-productive cough and respiratory difficulty with fatigue for 4 days. On physical examination, she had oxygen saturation with pulse oximeter (SaO2) 91% in room air and laboratory analysis revealed that, CRP: 112 mg/L, LDH: 350U/L and remarkable lymphopenia (540). CT scan showed ground-glass opacities with predominantly sub pleural distribution (figure 1). SARS- CoV-2 PCR result was positive from nasopharyngeal sample. She was treated for COVID-19 with Hydroxychloroquine, azithromycin and prophylactic dose of enoxaparine. 5 days after, our patient was still presenting cough, respiratory difficulty with episode of hemoptysis. D-dimers were normal. There was no embol in Angioscanner, but CT scan showed cavitary lesions in right upper zone. Tuberculosis geneExpert was found positive. The diagnosis of Sars-Cov-2 and pulmonary tuberculosis coinfection was retained and after completing COVID-19 specific treatment, anti- TB treatment was continued.

Covid19 pandemic poses a public health problem throughout the world and is especially an alarming situation in countries endemic to tuberculosis. The emergence of tuberculosis following the AIDS pandemic raises fears of a possible emergence with sars-cov-2 coinfection. Strangely enough, we have not observed an increase in tuberculosis cases in these countries but it may be underreported.

Sars-Cov-2 could occur in active tuberculosis patients; with risk of aggravation, could also reveal tuberculosis or infect former tuberculosis patients [2, 3]. The latter could see their tuberculosis reactivated, like our patient. This reactivation could be explained by the immune reaction generated by infection with Sars-Cov-2. Indeed, An interplay of various interleukins (IL); triggered by inflammatory response to viral infection; affect T-cell Immune response. Moreover, Type-I interferon (IFN); abnormally secreted as antiviral body response; may promote susceptibility to TB infection. This susceptibility is increased by the association with glucose metabolism disorders, a factor which seems to act on the immune response and constitutes one of the main prognostic factors of Covid-19. This factor was also present in our patient as well as in several other patients with a covid-19 tuberculosis coinfection [4, 5].

By this case report we sound the alarm about a possible reactivation of former tuberculosis following infection by Sars-Cov-2, especially if this occurs in a field of deregulation of glucose metabolism.

Practitioners in tuberculosis-endemic countries should be more vigilant and anticipate a possible tuberculosis outbreak, which would be fatal under the conditions of the Covid-19 pandemic.

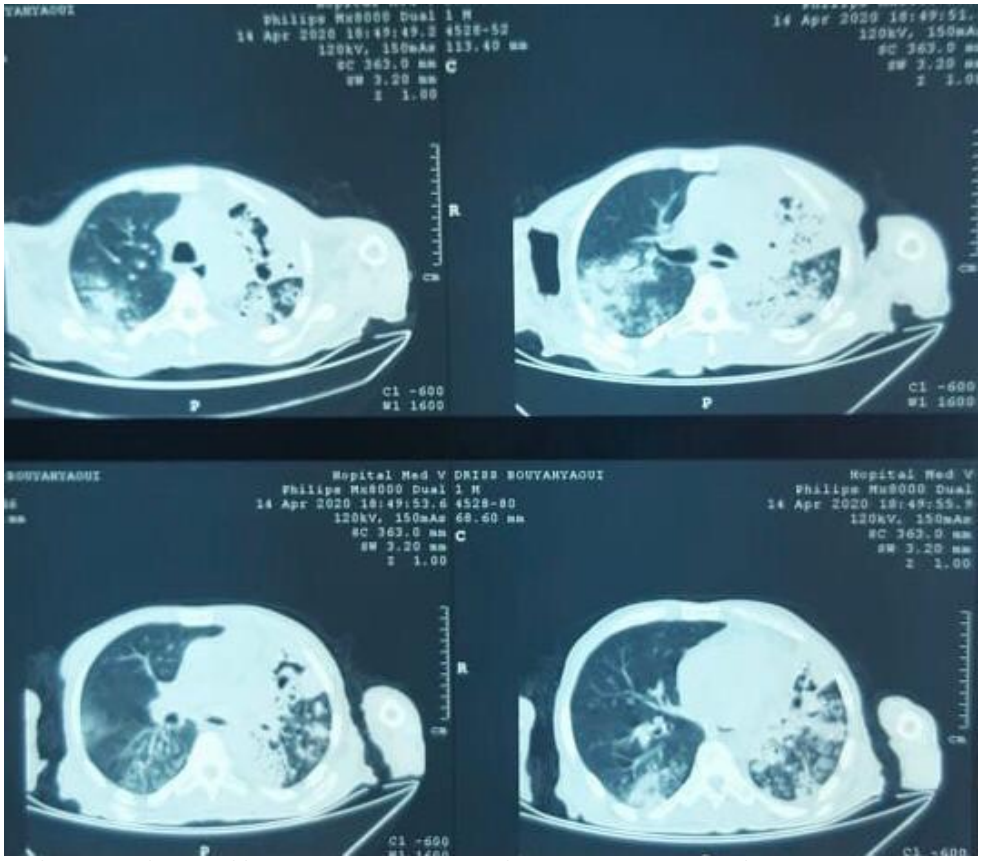

Fig-1: Sequelae of cicatricial fibrosis of former tuberculosis on the left upper lobe, with areas of asymmetric bilateral hyperdensity not systematized in ground glass compatible with covid19

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