



# Enfermedades Infecciosas y Microbiología Clínica

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## Letter to the Editor

### Impact of the COVID-19 pandemic on tuberculosis in Peru: Are we forgetting anyone?☆



#### *Impacto de la pandemia por COVID-19 en la tuberculosis en el Perú: ¿nos estamos olvidando de alguien?*

Dear Editor,

The COVID-19 pandemic has been generating a serious public health crisis in Peru, which has recently recorded a mortality of approximately 9.4%, with 2,043,262 confirmed cases and 191,447 deaths.<sup>1</sup> These data reflect the precarious health situation of the country due to the limited number of hospitals, the shortage of essential materials for health care, the poor implementation of specialised laboratories and the reduced availability of hospital beds, mechanical ventilators and specialised health personnel.<sup>2</sup> Added to this is the health burden of infectious and chronic diseases such as tuberculosis (TB) and other respiratory infections that represent 86.2% and 86.6%, respectively, in years of life lost due to premature death.<sup>3</sup>

TB and COVID-19 are currently the two leading causes of death in the world among infectious diseases, and TB/COVID-19 coinfection favours the progression and worsening of both diseases because both diseases tend to induce an unbalanced inflammatory response, which doubles the risk of mortality in affected patients (RR=2.10; 95% CI, 1.75–2.51;  $p < 0.00001$ ).<sup>4,5</sup>

Prior to the pandemic, in 2018, 235,345 incident cases of TB were reported in America, and Peru was classified as one of the countries with the highest incidence (98.2 cases/100,000 inhabitants), ranking second after Brazil, with a high burden of people

infected throughout the continent.<sup>6</sup> Metropolitan Lima and Callao report 64% of the TB cases, 79% are multidrug resistant (MDR-TB) and 70% are extremely resistant (XDR-TB).<sup>7</sup>

In 2020, the global TB programme of the World Health Organization (WHO) showed a 25–30% drop in notifications of cases of people infected by several countries with a high disease burden, such as India, Indonesia and the Philippines. Likewise, in the Americas, the diagnosis of new TB cases fell between 15% and 20% during 2020, due to the pandemic.<sup>8</sup> This would negatively impact TB mortality, since WHO models indicate that, if 50% of those infected are not identified for a period of three months, it would lead to around 400,000 more people succumbing to this disease.<sup>9</sup>

At the beginning of the pandemic, the offer of services at the first level of care was limited to emergencies, with health promotion and risk prevention being restricted, as well as outpatient consultations to monitor patients with chronic diseases.<sup>10</sup> This may have led to the underdiagnosis of TB cases in 2020 (Table 1). It can be expected that the number of MDR-TB cases will increase in 2021–2022 and further affect treatment outcomes.<sup>11</sup>

The pandemic has caused us to lose interest in communicable and chronic diseases such as TB, which, associated with socioeconomic factors and a health system hit by the pandemic, could lead to it becoming a greater public health problem than it currently represents. In order to reduce the need for visits to health facilities, the monitoring of the therapeutic regimen of these patients should be guaranteed with the timely and uninterrupted delivery of their medication implemented with epidemiological surveillance based on digital technologies. Likewise, in order to mitigate underdiagnosis, a telemedicine system based on health promotion and community monitoring could be implemented, allowing the necessary services to be brought as close as possible to the people and communities affected by TB.

**Table 1**

Advances and gaps in TB coverage in Peru from 2017 to February 2021.

| Indicators   | 2017                     | 2018                     | 2019                     | 2020                   | 2020 goal              | 2021 (until February) | 2021 goal              |
|--|--------------------------|--------------------------|--------------------------|------------------------|------------------------|-----------------------|------------------------|
| Percentage and number of TB cases diagnosed                              | 84.1%<br>(31,120/37,000) | 88.2%<br>(32,642/37,000) | 89.1%<br>(32,970/37,000) | 66%<br>(24,296/37,000) | 90%<br>(33,300/37,000) | 9.2%<br>(3417/37,000) | 90%<br>(33,300/37,000) |
| Percentage and number of patients abandoning drug-sensitive TB treatment | 7.9%<br>(2128/27,014)    | 6.1%<br>(1763/28,811)    | 3.6%<br>(1034/29,077)    | 2.5%<br>(534/21,605)   | ≤5%                    | 0% (0/3272)           | ≤5%                    |
| Percentage and number of patients abandoning drug-resistant TB treatment | 17.1%<br>(521/3048)      | 14.1%<br>(456/3236)      | 6.9%<br>(237/3422)       | 5.7%<br>(151/2639)     | ≤10%                   | 0% (0/263)            | ≤10%                   |

Source: Dirección de Prevención y Control de la Tuberculosis (DPCTB) [Tuberculosis Prevention and Control Directorate], Ministry of Health, Peru.

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In the case of patients who cannot access these digital technologies or face-to-face assessment in health centres, TB units could be set up to ensure all the necessary health measures to increase confidence among the population and reduce the risk of resistant forms of TB. These among other measures would be able to boost early diagnosis, access to medications and control of adherence to treatment, while avoiding the spread of COVID-19.

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## Conflicts of interest

The authors have no conflicts of interest to declare.

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## Ramsay Hunt syndrome following mRNA SARS-CoV-2 vaccine<sup>☆</sup>



## Síndrome de Ramsay Hunt tras vacunación con m-RNA SARS-CoV-2

Dear Editor,

Ramsay-Hunt syndrome typically manifests with a vesicular rash on the concha and external auditory canal associated with peripheral facial paralysis. This is caused by reactivation of latent varicella-zoster virus within the geniculate ganglion, in association with factors that influence immunosuppression, including immunosenescence.

We recently assessed a female patient at our centre who exhibited symptoms consistent with Ramsay-Hunt syndrome following administration of the COVID-19 vaccine. At the time of writing, we are not aware of any other published cases of a similar nature, just herpes zoster reactivation in other locations<sup>1–3</sup> and Bell's palsy<sup>4,5</sup>, which is why we wanted to warn of this possibility. Our patient is a 78-year-old woman with a history of childhood poliomyelitis with sequelae in the lower limbs, as well as untreated arterial hypertension. Three days after receiving the BNT162b2 vac-

cine (Pfizer-BioNTech), she began to experience instability, general malaise, nausea and severe pain in the external auditory canal and right half of the cranium. She attended A&E where she underwent a range of tests, including blood tests, a PCR test for SARS-CoV-2 and a brain CT scan. She was initially diagnosed with flu-like symptoms in the context of vaccination. However, she returned to A&E two days later due to a worsening of her symptoms and decreased right-sided facial motility. Examination revealed vesicles and crusted lesions on the concha of the right ear and House-Brackmann grade IV right peripheral facial paralysis, a left horizontal-rotatory nystagmus and gait instability falling to the right side. Audiometry revealed bilateral sensorineural hearing loss that was more pronounced in the right ear (the findings in the left ear were consistent with presbycusis). Video Head Impulse Test (V-HIT) identified vestibular hypofunction of the right ear (gain of 0.43). Two weeks later, the patient's instability and sensorineural hearing loss, particularly in the right ear, persisted, accompanied by a very slight improvement in facial paralysis.

Varicella-zoster virus reactivation and idiopathic facial paralysis have often been reported in association with several virus vaccinations, including influenza and hepatitis B. It is therefore not particularly surprising that cases of both conditions in relation to SARS-CoV-2 vaccination have recently been published, as mentioned above. Evidence of peripheral facial paralysis has even emerged from a phase III clinical trial with COVID-19 vaccines<sup>4</sup>. That article reported that 844 (0.6%) of the 133,883 cases of adverse reactions to mRNA COVID-19 vaccines received by the World Health Organization pharmacovigilance database by the beginning of March (considering that more than 320 million people had been

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