

## Editorial



# How Can We Identify the Suspicious Pulmonary Tuberculosis Patients to Prevent Nosocomial Transmission?

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### Conflict of Interest

The author has no potential conflicts of interest to disclose.

► See the article “Delays in Isolating Patients Admitted to Hospital with Pulmonary Tuberculosis in Korea” in volume 34, number 43, e270.

According to World Health Organization (WHO) tuberculosis (TB) reports, Korea is the intermediate-burden country of TB with an annual incidence rate of 66 per 100,000 in 2018, which is still quite high despite of Korean Ministry of Health's effort.<sup>1</sup> Korean TB incidence and mortality have markedly decreased but annually-notified new patients have not decreased in elderly patients.<sup>2</sup> The group of more than age 80 showed the highest TB incidence rate as high as 382 per 100,000 in 2018, which is approximately 9 times the incidence rate of age 40ths.<sup>2</sup> Most of elderly patients do not usually express the respiratory symptom due to underlying chronic diseases or bed-ridden status, which could be the expected risky group for nosocomial transmission of missed TB in the era of aging population.

In this issue, Heo et al.<sup>3</sup> provided the valuable information which are the risk factors for delayed isolation of suspected pulmonary TB patients. The strong risk factors for late isolation were admission to departments other than pulmonology or infectious diseases (adjusted odds ratio [aOR], 5.302; 95% confidence interval [CI], 3.177–8.847;  $P < 0.001$ ) and old age: the exposure risk slightly increased with an increase of age (aOR, 1.016; 95% CI, 1.008–1.023;  $P < 0.001$ ). In other words, the problems that patients have had, could not pay attention to the respiratory issues if they were admitted to department of surgery or other medical department. The population of old age is increasing and they have more chances for reactivation of TB along with waning of immunity. Meanwhile, the patients who had past history of TB, night sweats, or apical infiltrates on chest x-ray were adequately isolated on admission due to this typical finding of expected TB.<sup>3</sup> Therefore, if pneumonic infiltrates in middle or lower lobe of chest X-ray even in asymptomatic patients could be suspected for the possibility of TB as well as bacterial pneumonia.

If TB is detected very late after admission to a hospital, critical issues can occur. First, close-contact healthcare-workers with the patients would be subject to the exposure and develop latent infection of TB, which has the potential for transmission of TB to the inpatients.<sup>4</sup> Recently, a Korean hospital revealed that latent TB infection developed high (9.2%) among TB-naïve healthcare-workers who had close contact with the index patients.<sup>5</sup> Second, immunocompromised or susceptible inpatients who are known as a high-risk group for TB development, are exposed to TB.<sup>6</sup>

To stop the spread of *Mycobacterium tuberculosis* transmission from missed TB patients, we should identify these risk factors for delayed isolations as analyzed in this issue. Proper strategies as well as immediate isolation are required for the goal to control TB. In the long run, pre-emptive isolation of asymptomatic pulmonary TB patients having atypical sign without microbiologic evidence including elderly patients in sufficient single rooms with negative pressure should be considered to control TB in Korea.

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