Upper Respiratory Tract Tuberculosis; Rare But Clinically Important Infectious Disease

Key words: tonsillar tuberculosis, nasopharyngeal tuberculosis

Tuberculosis (TB) is systemic infectious disease which may occur in lymph nodes, brain, skin, bones, oral cavity, and intestines, although the main form is pulmonary TB. Among these extrapulmonary TB, upper respiratory tract TB, such as tonsillar, nasopharyngeal and hypopharyngeal TB have been regarded as rare forms of TB. The reported incidence of pharyngeal and tonsillar TB is estimated to be 0.1–0.6% (1, 2), and 0.05–1.5% (3, 4) of all patients with TB, respectively. But the true incidence of TB in this lesion must be much higher, because those estimations were made based on the pathological diagnosis from biopsy or autopsy specimens. We sometimes encounter patients of pulmonary TB who complain of sore throat or slight painful swallowing which completely resolve within 1 week after taking anti-TB drugs, which suggests the coexistence of mild pharyngeal or tonsillar TB.

Most TB of the upper respiratory tract is a complication of pulmonary disease, resulting from the surface contact by sputum heavily laden with tubercle bacilli. Hematogenous dissemination and lymphatic spread from the lung seldom occur, and primary pharyngeal and tonsillar TB is very rare. However, as with TB of the intestine, it is strange that in almost half of the reported cases of tonsillar TB (5, 6) including that by Yamamoto et al (7), acid-fast bacilli (AFB) smear and culture are negative.

Indeed, the diagnosis of tonsillar and pharyngeal TB is generally confirmed by histopathologic examination of the biopsy specimen or identification of the infiltrate on chest X-ray that suggests active pulmonary TB. This pathologically unexplained fact that pharyngeal or tonsillar TB does not always occur in advanced pulmonary TB (the infectious cases with a relatively large amount of tubercle bacilli inside sputum), makes it difficult to diagnose these rare complications of pulmonary TB. But in general, when we see patients with relatively mild pulmonary TB with a very severe cough or high amount of bacilli on sputum smear, we need to be reminded of the coexistence of pharyngeal or tonsillar TB.

The primary form of tonsillar TB is a very rare clinical entity. The predisposing factors for primary tonsillar TB includes poor dental hygiene, dental extraction, periodontitis, leukoplakia (3), and frequent drinking of unpasteurized milk (6). Although the etiology of tonsillar granulomatous diseases includes sarcoidosis, Hodgkin's lymphoma, toxoplasmosis, squamous cell carcinoma, Wegener's granulomatosis, and tuberculosis, almost one-third of all tonsillar granulomas are of unknown origin even after pathohistological examination and long-term follow-up (8). Among them, the most important differential diagnosis from TB is sarcoidosis, because both diseases share a similar clinical presentation, such as pulmonary involvement and lymphadenopathy.

As in the case reported by Yamamoto et al (7), the most dominant complaint of the tonsillar TB patient is difficulty in swallowing or painful swallowing. The other frequent symptoms of tonsillar TB include dry cough, hoarseness, sensation of increased warmth, fullness, and stiffness in the throat. The voice change may include fluctuating weakness, alterations in timbre, and frank hoarseness. Because TB of the upper respiratory tract responds extremely well to anti-TB chemotherapy, these symptoms are relieved immediately after starting anti-TB treatment. Only a few patients need systemic corticosteroid therapy to relieve severe dysphagia and persistent pain in addition to standard anti-TB treatment.

The fact that the patients with upper respiratory tract TB are very infectious is clinically and socially important. Among them, patients with pharyngeal TB are severely infectious, since they suffer from severe cough, and have a large amount of tubercle bacilli inside the sputum in many cases. They are likely to be seen in otolaryngology or general clinics and generally do not have correct diagnosis until the abnormal findings on chest X-ray film are found. In these cases, not only the family of the patient but also physicians, nurses, and other medical staff are submitted to marked exposure of tubercle bacilli from this patient. To prevent TB transmission, we have to be cautious of patients with severe cough, and difficulty in swallowing. In conclusion, we should always be reminded of tuberculosis in any clinical setting. It is necessary to examine sputum for AFB and perform the purified protein derivative skin test.

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Reference