

Cutaneous Tuberculosis and Other Skin Diseases in Hospitalized, Treated Pulmonary Tuberculosis Patients in the Philippines

Sylvia S. Jacinto, MD; Pedro Lopez de Leon, MD; Charisse Mendoza, MD

A cross-sectional study of 425 hospitalized patients with pulmonary tuberculosis (PTB) was conducted to look for the presence of cutaneous tuberculosis (CTB) and other skin diseases. Because PTB is one of the leading causes of morbidity and mortality in the Philippines, a high number of CTB was expected despite antituberculosis (anti-TB) treatment. Scarring (post-CTB) in Filipinos usually is obvious and visible because of their brown skin. However, no scarring was observed in our patients. Other skin diseases seen were tabulated and followed the frequency rates seen in charity and private hospitals or clinics reported in previously published literature. We therefore conclude that CTB is rare in patients with PTB, especially in treated cases. Cutis. 2003;72:373-376.

Tuberculosis (TB) was the sixth leading cause of death in the Philippines in 1998.¹ According to the Philippine Department of Health, TB mortality ranked sixth at 28,041 per 352,992 people in 1998,¹ while TB morbidity was 142.2 per 100,000 people in 2001 (population, approximately 78 million).² The Philippine Department of Health figures for 2002 state that of 438,652 symptomatic cases of TB, 379,930 cases have positive TB bacilli in their sputum.³

We have found no mention in textbooks about the percentage of cutaneous tuberculosis (CTB) in

PTB cases. Because the Philippines has one of the highest number of cases of PTB in the world, we thought it would be of value to find if there is a correlation between PTB and CTB. Also, would the other skin diseases seen in charity and private clinics or hospitals be the same?

One difficulty was how to gather patients together before therapy. This was not feasible. Therefore, we thought a captive group, like the group hospitalized in an exclusive government PTB hospital, the Quezon Institute (QI), might yield some information despite the institution of systemic antituberculosis (anti-TB) treatment. Most patients with CTB have telltale marks on their skin, or patients will give a history of such lesions that would have responded to anti-TB therapy. The QI is the Philippines's only government-sponsored charity hospital exclusively for PTB (ranging from mild to severe on chest radiographs and negative to 4+ on sputum cultures). We examined 425 patients for cutaneous lesions. CTB was suspected in 9 cases, but results of skin biopsies were negative for all patients.

Patients and Methods

Ambulatory inpatients from the QI diagnosed with PTB (confirmed by chest radiographs and sputum cultures) from February to May 1994 were examined by senior dermatology residents from an approved residency program. Four hundred twenty-five patients were chosen randomly to be included in the study. Diagnosis of PTB was established by positive chest radiographs and sputum cultures.

Other laboratory procedures, such as potassium hydroxide preparations, Burrow ink test, and skin biopsies, were performed. Histories of previous skin lesions were recorded. In addition to the physical examination, axillary, cervical, and inguinal lymph

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Drs. Jacinto and Mendoza are from the Skin and Cancer Foundation Inc, Makati City, Philippines. Dr. de Leon is from the Quezon Institute Hospital, Quezon City, Philippines. The authors report no conflict of interest.

Reprints: Sylvia S. Jacinto, MD, Skin Clinic, 1311 Batangas St, Makati City, Philippines 1200 (e-mail: vijacinto@yahoo.com).

Table 1.

Results of Chest Radiographs (N=425)

Severity of Pulmonary Tuberculosis	No. of Patients (%)
Mild	29 (6.8)
Moderate	137 (32.2)
Severe	259 (60.9)

Table 2.

Results of Sputum Cultures (N=425)

Results	No. of Patients (%)
(-)	291 (68.5)
1+	42 (9.9)
2+	48 (11.3)
3+	27 (6.4)
4+	17 (4.0)

Table 3.

Involvement of Lymph Nodes (N=425)

Lymph node	No. of Patients (%)
Axillary	39 (9.2)
Cervical	165 (38.8)
Inguinal	3 (0.7)
None	218 (51.3)

Table 4.

Age Distribution Among Patients

Age, y	No. of Patients (%)
13–20	2 (0.47)
21–30	19 (4.5)
31–40	121 (28.5)
41–50	95 (22.4)
>50	119 (28.0)

nodes were palpated for any enlargement. All of the 425 patients enrolled in this study had been on triple or quadruple anti-TB medications for 1 to 3 months before dermatologic examination. Photographs were requested but refused by all.

Results

Of the 425 patients enrolled in the study, 71% were male. Results of chest radiographs showed a predominance of patients with severe PTB (Table 1); however, results of sputum cultures were negative in most patients (Table 2). More than one third of patients had cervical lymphadenopathy (Table 3). An almost equal distribution of patients was noted in the age ranges from 31 to 40 years, 41 to 50 years, and older than 50 years (Table 4). No cases of CTB were found in this population. Other skin diseases noted in this group are listed in Table 5.

Physicians performed biopsies on 9 patients suspected of having CTB (eg, tuberculosis cutis verrucosa, lupus vulgaris, scrofuloderma), all of which were

found to be histologically negative for TB. However, 4 patients showed scarring at the cervical area, which is suggestive of scrofuloderma. No biopsies were performed on these patients, because by this time, the lesions had healed and showed atrophic scarring.

Comment

Little information exists on CTB except for case reports of lupus vulgaris, papulonecrotic tuberculid, scrofuloderma, erythema induratum, and subcutaneous abscess (occurring even during anti-TB treatment).⁴⁻⁷ The Philippines—still one of the primary locations of PTB because of poverty, poor hygiene and sanitation, poor public health programs, and lack of public information and education—would be the ideal place to do studies on CTB. CTB is not a common dermatosis in the Philippines, based on prevalence rates reported over the years by both charity and private outpatient clinics.^{8,9} We consider this a curious finding in view of the abundance of patients with PTB.

Table 5.

Other Skin Diseases Noted

Acne vulgaris
Arthropod bite reaction
Contact dermatitis
Dermatosis papulosa nigra
Drug eruption
Lichen simplex chronicus
Pityriasis versicolor
<i>Pityrosporum</i> folliculitis
Scabies
Seborrheic dermatitis
Seborrheic keratosis
Tinea corporis
Tinea cruris
Tinea pedis
Urticaria
Verruca vulgaris
Vitiligo
Xerosis

The lack of CTB in these 425 proven and treated PTB patients can be explained in 2 ways: (1) CTB commonly does not manifest as an id reaction to PTB, and (2) CTB in those patients (who did not report skin lesions) was cured with systemic treatment of PTB.

The first explanation is the most likely because CTB takes many weeks to months to cure and may even develop during therapy.⁴ After its disappearance or clearing, CTB leaves atrophic scars and hypopigmented and hyperpigmented lesions on brown skin. Also, the patient's history would reveal skin lesions that had healed with PTB treatment. This was not the case in these patients.

An extensive search of the literature revealed few case reports of different clinical manifestations of CTB with PTB⁵⁻¹⁹ These were lupus vulgaris,⁵⁻¹³

subcutaneous abscess,^{4,14} erythema induratum of Bazin,^{15,16} erythema nodosum,¹⁷ papulonecrotic tuberculid,¹⁸ and scrofuloderma.¹⁹ There were 2 cases of immunocompromised patients: one patient using systemic steroid therapy for systemic lupus erythematosus developed subcutaneous abscesses,¹³ and one patient with diabetes who developed lupus vulgaris.¹² With the advent of human immunodeficiency virus, more cases of both CTB and PTB should have been encountered in the Western world. However, our literature search did not show that.

The most likely conclusion is that CTB is not common, even in patients with PTB. The other skin diseases seen in the PTB cases we studied seem to follow the same frequency as those seen in previously reported and unpublished series.²⁰⁻²⁴

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