CASE REPORT

Pleural Tuberculosis in a Nepali Trekker

Buddha Basnyat, MD, MSc, FACP

From the Nepal International Clinic, Lal Durbar, Kathmandu, Nepal

Introduction

Although tuberculosis is rampant in the Himalayas, this disease has not been reported in either a Western or Nepali high-altitude sojourner in this area. Trekking and climbing are very popular sports in Nepal, and altitude sickness is a common problem. A patient with tubercular pleural effusion that was misdiagnosed as high-altitude pulmonary edema (HAPE) is described in this case report. The health care provider in the mountains needs to be aware of this eminently treatable disease entity in the differential diagnosis of HAPE, especially in a local sojourner to the Himalayas.

Case presentation

A 32-year-old local Nepali trekking guide from Kathmandu presented to the medical aid post at Manag (3800 m) in Nepal reporting 3 days of shortness of breath on exertion and minimal nonproductive cough and headache. He had no nausea or dizziness. He had brought his group of Western trekkers up to 3800 m following all the recommended overnight stops for proper acclimatization. He was fine during the previous 3 days (<3000 m). He was a social drinker with no history of intravenous drug abuse. On examination, his pulse rate was 106 beats/min, his temperature was 37.5°C, and his respiratory rate was 25 breaths/min. He had no neck stiffness, and his fundi were normal. There was no cyanosis, and he had some decreased breath sounds and crackles in his left chest region. There were no signs of high-altitude cerebral edema. He was thought to have HAPE with a chest infection. He was given doxycycline 100 mg 2 times a day for possible pneumonia and long-acting nifedipine 20 mg 3 times a day for possible HAPE.

Although the guide had been advised to descend, he remained in the area for 2 days without improvement. He finally descended to Kathmandu by foot and by bus.

At a private hospital in Kathmandu, a chest radio-

graph of the guide revealed a left pleural effusion, as shown in the Figure. Further history taking revealed that he had been having a low-grade fever (<38°C) for 2 weeks before the trek.

The effusion was tapped, and 3 liters of straw-colored fluid were removed over 3 days. A biopsy revealed tuberculosis of the pleura. The patient was treated with antitubercular medicines with excellent improvement. He then returned to his trek-leading job.

Discussion

Acute mountain sickness and its life-threatening complications, HAPE and high-altitude cerebral edema, are regularly encountered in the Himalayas,¹ even among the local guide and porter population.² However, the author is not aware of a reported case of a sojourner (either Nepali or Westerner) with tuberculosis that needed to be differentiated from HAPE. Clinical tuberculosis is very uncommon in tourists, but they may become infected while trekking or climbing in the Himalayas and develop the active disease within 1 to 2 years. In the Nepali, however, symptomatic tuberculosis is very important to consider in the differential diagnosis.

The symptoms of HAPE are fatigue, shortness of breath on exertion, cough, and chest tightness. Signs include tachypnea, tachycardia, rales, and central cyanosis. At least 2 symptoms and 2 signs are necessary for the diagnosis of HAPE.¹ HAPE may follow other symptoms of acute mountain sickness, such as headache, nausea, dizziness, fatigue, and insomnia, or it may arise independently. It is important to note that symptoms and signs of HAPE and pulmonary tuberculosis may overlap, and in cases occurring at high altitudes, the health care provider may be too focused on altitude sickness.

In this patient, in addition to the pleural effusion, the hypobaric hypoxia of high altitude and the physical exertion of trekking may have acted as a stress test exacerbating the problem of diffusion of oxygen in that environment,³ leading to more pronounced hypoxemia with symptoms. What had been relatively asymptomatic at low altitude became symptomatic at high altitude.

Corresponding author: Buddha Basnyat, MD, MSc, FACP, Nepal International Clinic, PO Box 3596, Lal Durbar, Kathmandu, Nepal (e-mail: Rishibas@wlink.com.np).

Posteroanterior chest radiograph showing a left-sided pleural effusion.

Nepal is highly reliant on tourism and trekking. The tourism ministry reports that annually there are easily more than 100 000 trekkers in the Himalayas.⁴ There are, however, disproportionately more Nepalis (as porters, trekking staff, and trip leaders) than tourists who sojourn to the mountains.² Although the medical literature abounds in medical problems of tourists at high altitude,² there are few studies of the medical problems of Nepalis sojourning to high altitude.

Physicians working in this area should consider tuberculosis in the differential diagnosis of cough, shortness of breath, HAPE, or pneumonia in the native Nepali sojourner. For the Western trekker to the Himalayas who subsequently develops cough, fever, and general malaise, even after a year or two, tuberculosis should be considered.

This case history reinforces the need to be aware of other diagnoses besides classic altitude sickness when treating the sick sojourner who has been trekking or climbing in the Himalayas.⁵

References

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