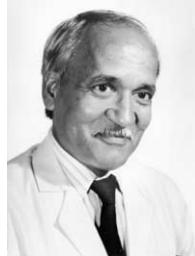




Preface
Tropical lung disease



Om P. Sharma, MRCP, DTM&H (Engl)



Alimuddin I. Zumla, PhD, FRCP

Guest Editors

Disease does not respect international boundaries. The social, political, and economic upheavals of the last three decades have altered profoundly the political map of the world. Accelerated pace of migration, student and cultural exchanges, business travel, and tourism have imparted an unprecedented influence on the way we practice medicine. Rare infectious and exotic parasitic and nonparasitic illnesses, once considered limited to tropical parts of the developing world, are currently showing up with increasing frequency in the emergency rooms, clinics, and hospitals of European and American cities. Several of these diseases primarily involve the lungs, whereas others affect the respiratory system in conjunction with other tissue systems of the body. Forty-eight percent of deaths worldwide of people under the age of 45 are caused by infectious diseases, particularly malaria, tuberculosis, HIV/AIDS, and parasitic illnesses. Of these, a large proportion of deaths are caused by respiratory illnesses.

This issue of *Clinics in Chest Medicine* provides a state-of-the-art review of some of the more frequently encountered infectious and noninfectious pulmonary diseases in the tropics. The authors of 19 selected topics in this issue are leading international clinicians and scientists in their field. This collection, a distillation of their experience and vision, emphasizes the current thinking on recognizing, diagnosing, and treating tropical lung disorders. This issue deals with three broad areas of lung disease in the tropics: (1)

lung immunology, lung radiology, and pulmonary granulomas; (2) infectious lung disorders, and (3) noninfectious lung disease.

In the article entitled “Immunological aspects of tropical lung disease,” Drs. Zumla and James detail aspects of developmental immunology related to the lung and its clinical application as it relates to the tropical terrain. The tropical host is particularly susceptible to invading microorganisms as consequence of immunodeficiency caused by malnutrition and HIV/AIDS. The authors emphasize that although the host is a battleground between the immune system and invading antigens, the encounter may not always be protective and could lead to consequential lung damage. Drs. Tshibwabwa, Richenberg, and Aziz remind us that lung radiology *in* the tropics encompasses a wider brief than lung radiology *of* the tropics. An overview of imaging services in the tropics and the difficulties associated with such services is followed by a disease profile of lung imaging. The radiologic findings in select lung infections is accompanied by characteristic images.

Drs. Sharma and Vucinic provide a practical approach to dealing with pulmonary granulomatous disorders, which are common in tropical and temperate zones. The causes of pulmonary granulomas are many and varied and include tuberculosis, fungi, organic antigens, parasites, and chemicals. The authors emphasize a thorough history of the residence, recent travels, past and present employment, and hobbies and

interests. A careful history and physical examination enhanced by a good quality chest radiograph and simple laboratory tests may solve easily the riddle of lung granuloma in most cases.

Tuberculosis remains a global emergency. The major task of physicians everywhere is not only to arrive at the correct diagnosis of pulmonary disease but also to recognize the extrapulmonary manifestations of tuberculosis. Drs. Maartens and Beyers give a succinct overview of the problem of tuberculosis in the tropics. Drs. Özbay and Uzuan describe common and uncommon presentations of extrapulmonary tuberculosis. In India, Africa, and Southeast Asia, where the incidence of primary drug resistance is high, the diagnosis of tuberculosis becomes difficult, particularly when the disease occurs in association with immunodeficiency syndromes. Dr. Slotar and his colleagues point out the difficulties in diagnosing and treating tuberculosis when it occurs in association with HIV/AIDS. The nontuberculous or atypical mycobacteria are less virulent and cause fewer clinical pulmonary problems, as compared with *Mycobacterium tuberculosis*. In patients with AIDS, however, failure of delayed-type hypersensitivity mechanisms may result in fatal disseminated disease. Drs. Zumla and Grange discuss the impact and management of immunosuppression that result from HIV infection on atypical mycobacterial infection.

Tropical pulmonary eosinophilia is seen mainly in Southeast Asia, particularly in India and the South Pacific Islands. The distribution of the syndrome is similar to Bancroftian and Malayan filariasis. In the temperate areas, the differential diagnosis of pulmonary eosinophilia is vast. Drs. Savani and Sharma provide a description of the illnesses that cause pulmonary eosinophilia and depict an elegant clinical algorithm based on chest radiographic appearances. Helminthic infections of the lung continue to be important causes of lung disease in the tropics, and this issue covers echinococcosis, paragonimiasis, and schistosomiasis. Drs. Gottstein and Reichen comprehensively review the two *Echinococcus* species that cause pulmonary forms of hydatidosis: "cystic hydatid disease" (caused by *Echinococcus granulosus*) and "alveolar echinococcosis" (caused by *E. multilocularis*). They graphically illustrate the complex life cycle and the pulmonary pathologic and radiologic features of these species.

Paragonimiasis is one of the most common causes of hemoptysis in the world. The disease is endemic in Korea, Japan, China, and many African countries, especially Nigeria, and in parts of South America and

Southeast Asia. This peculiar geographic distribution was the reason for having two points of view of this illness. Dr. Nakamura and his colleagues give a Japanese perspective of diagnosing paragonimiasis, and Drs. Velez, Ortega, and Velasquez provide a European and South American viewpoint. Readers will find the difference educational.

Worldwide, more than 200 million people suffer from schistosomiasis. In the United States alone there are more than 400,000 cases, most of them among immigrants from Puerto Rico, the Middle East, the Philippines, and Brazil. Dr. Schwartz brings to our attention the fact that pulmonary schistosomiasis should be suspected when lung disease that is associated with hepatic or urinary tract disease is seen in persons from an endemic area. Extensive pulmonary involvement and subsequent cor pulmonale in schistosomiasis are rare without marked liver disease.

Malaria continues to ravage large tracts of the tropical and subtropical areas and is becoming a major problem in travelers who are returning from the tropics. Despite impressive progress in the understanding of the biology of the malarial parasite and the mosquito vector, we still are far from finding a solution to the problem of malaria eradication. Approximately 10% of patients with *Plasmodium falciparum* malaria infection may develop clinical pulmonary disease. Pulmonary edema and adult respiratory distress syndrome are two of the most serious and often fatal complications. Dr. Jindal and his co-authors discuss the cause of ARDS in the tropics. Drs. Taylor and White succinctly summarize the management and treatment of malaria.

Amebiasis has a worldwide distribution, and the number of cases in the large European and American metropolitan hospitals is impressive. Drs. Shamsuzaman and Hashiguchi review pulmonary amebiasis and point out that it always should be included in the differential diagnosis of patients with unexplained right pleural effusion or consolidation, particularly in individuals who either live or have come from an endemic area.

Drs. Carvalho and Bethlem describe their experience in treating pulmonary leptospirosis, a disease caused by the spirochete *Leptospira interrogans*. Weil gave the first description of the disease, hence the eponym "Weil's disease." In this multisystemic disorder, pulmonary lesions are primarily hemorrhagic and fatal.

Behçet's disease was first described by Hulusi Behçet, a Turkish ophthalmologist. It is also called Silk Road disease because of its curious distribution in the area of the old Silk Road between China and the Middle East. Dr. Erkan and her colleagues have

amassed impressive data on this disease, and their review is pragmatic and educational.

Familial Mediterranean Fever (FMF) affects ethnic groups of Middle Eastern and Mediterranean origin, mainly Jews, Turks, Druses, and Arabs. Dr. Lidar and his colleagues from Israel review pulmonary manifestation and recent advances in clinical and genetic aspects of the disease. Drs. James and Lipman describe lung involvement in Whipple's disease, a condition currently seen in increasing frequency in many parts of the world. Its cause remains unknown.

Although a wide variety of subject matter has been covered in this issue on tropical lung disease, it is neither comprehensive nor balanced. It clearly reflects our bias as far as the importance of various topics is concerned. We sincerely hope that our efforts and those of the contributors will assist pulmonologists and other physicians who face practical

problems related to tropical medicine. As guest editors, we would like to express our sincere gratitude to the publishers and the expert contributors for making this issue a success.

Om P. Sharma, MRCP, DTM&H (Engl)

Department of Medicine

Division of Pulmonary and Critical Care Medicine

Keck School of Medicine

University of California, San Francisco

San Francisco, CA, USA

Alimuiddin I. Zumla, PhD, FRCP

Centre for Infectious Diseases

and International Health

University College London

Windeyer Institute of Medical Sciences

46 Cleveland Street, London W1P 6DB, UK