Clinical medicine in Afghanistan and Cambodia. A personal perspective.

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Abstract
This article summarizes three years’ clinical work in Afghanistan and Cambodia as medical student, house officer, and physician.

It describes clinical work experience in Afghanistan and Cambodia notable for the reliance on physical signs and limited investigations of economically disadvantaged patients in an environment characterized by poverty and poor security due to civil war. The experience has underlined the importance of hospital infection control to prevent tuberculosis and blood borne infections acquired in hospital and the usefulness of long-term collaboration between developing and developed countries.

Key words: Developing countries, Afghanistan, Cambodia, clinical medicine, collaboration

Introduction
I spent in total three years’ clinical work experience in Afghanistan and Cambodia as medical student, house officer and physician between 1986 and 2007, and this is a personal description of clinical medicine experience with the intention of providing an interesting report of patients in developing countries and contributing to constructive discussion. Some of the following case descriptions have already been published elsewhere1-3.

Afghan refugees in Pakistan
Three million Afghan refugees lived in Pakistan in 1986 following the Soviet occupation of Afghanistan4.

During two one month visits as a medical student the author worked in a hospital in the refugee camp Barakai close to Mardan north of Peshawar, Pakistan, near the Afghan border. Refugee patients were seen in outpatient clinics and as inpatients. A proportion of patients were treated for complaints frequently seen in primary care clinics, e.g. tension headache, or nonspecific body pain. Other common diagnoses were malaria and helminthic infections with hookworms or roundworms.

Figure 1 shows a patient with meningococcal meningitis and septicaemia during an outbreak in the refugee camp with several other admissions of similar patients. The boy had neck-stiffness and a generalized confluent rash and was treated with antibiotics for bacterial meningitis. He became hypotensive and vomited up blood and shortly thereafter died.

Figure 1. Afghan boy with meningococcal meningitis.
Antibiotics were taken by foreign healthcare workers on an informal basis to prevent illness due to Neisseria meningitides following contact with patients with meningococcal meningitis.
Contact precautions were not applied. Reports are available where the infection was acquired by healthcare workers following contact with patients with Neisseria meningitides infection.

A female child (Fig. 2) was an inpatient with hepatosplenomegaly for weeks with no final diagnosis or treatment. Bone marrow biopsy or liver biopsy were not available and due to social and economic reasons no final diagnosis was determined.

Figure 2.

An Afghan mother (Fig. 3) admitted with her children for clinically diagnosed measles of the children based on a maculopapular rash and fever. Measles is spread through airborne transmission and in the hospital no airborne transmission precautions were used. Particular risk groups to acquire the infection are adults without immunity to measles, pregnant women, and immunocompromised patients (e.g. malnutrition).

Figure 3.

Public Health Hospital, Jalalabad, Afghanistan

In 1994 the author spent one year as senior house officer at the Public Health Hospital, Jalalabad, Afghanistan, together with Afghan physicians at the department of medicine. There was a need by physicians to have access to up-to-date medical information because some available textbooks were over ten years old and medical journals were not available. An important requirement for having access to up-to-date medical information was English language proficiency and support with learning English, e.g. by having conversations in English language was appreciated by all healthcare professionals.

Severe malaria with cerebral involvement was often diagnosed based on clinical presentation. A peripheral blood film examination for malaria parasites prepared by the hospital laboratory was not always considered reliable. In patients with apparent cerebral malaria and neck-stiffness bacterial meningitis was not always considered and could have affected patient management. Facilities to perform a lumbar puncture were not available in the hospital.

Patients with tuberculosis were frequently seen and diagnosed based on chest radiography findings and sputum examination results for acid fast bacilli. Mycobacterial culture and sensitivity testing were not available. Hospital infection control was not available including N95 respirator masks, surgical masks, or patient isolation with airborne transmission precautions.

Aliabad Hospital, Kabul, Afghanistan

Aliabad Hospital is a teaching hospital of Kabul Medical University, where the author in 2007 spent six weeks as visiting physician.

The patient shown in Figure 4 was treated for ascites, portal hypertension, and liver cirrhosis due to infection with hepatitis B virus infection.
This diagnosis was based on a positive serum HBsAg antigen examination. Hepatitis B virus infection and hepatitis C virus infection are frequent in Afghanistan and can be acquired e.g. through unsterile injection technique, and use of unsterile razor blades. A vaccine against infection with hepatitis B virus is available and prevention would be possible if vaccines are available to the population and transmission is reduced.

Figure 4.

The young Afghan man shown in Figure 5 was treated with steroids for nephrotic syndrome. Renal biopsy was not available. When taking oral corticosteroid medication in Afghanistan latent and undiagnosed active tuberculosis and infection with Strongyloides stercoralis should be taken into consideration to avoid symptomatic infection due to suppressed immune function.

Figure 5.

Figure 6 is a photograph taken close to the residential area of the author, and shows an adult male lying by the road. The exact circumstances are unknown and similar pictures could be taken in different parts of Kabul. The photograph was chosen to demonstrate that clinical work in Afghanistan is conducted in an unstable society with a civil war for many years, a general literacy level below 30%, and severe poverty.

Figure 6.

Phnom Penh, Cambodia (Calmette Hospital)

In 1997 the author spent 1 year working as senior house officer at two hospitals in Phnom Penh, Cambodia (Sihanouk Hospital, Calmette Hospital). A large number of patients with HIV and opportunistic infections were seen. In 1997 no anti-retroviral medication was available for treatment of HIV.

A young female patient was admitted with a pleural effusion (Fig. 7) and treated for pulmonary tuberculosis and HIV. Subsequently her condition deteriorated (Fig. 8) and she became unconscious with respiratory distress and died within a week. The photograph shows the patient in a separate room following the worsening of her condition. This young woman may have been a sex worker and could have acquired infection with HIV virus from clients. High prevalence of HIV infections and sexually transmitted diseases (STD) among sex workers have been reported: HIV 23%, Chlamydia trachomatis 11.5%, and Neisseria gonorrhoeae 7.8%.

Figure 7 & 8.
Phnom Penh, Cambodia (Khmer Soviet Friendship Hospital)

In 2007 the author stayed as visiting physician at the department of medicine of Khmer Soviet Friendship Hospital for 4 weeks.

In a separate ward for HIV-infected patients with tuberculosis Figure 9 shows a cleaner holding the baby of a patient in her arms. N95 respirator masks were not available. Surgical masks were used by some healthcare workers, infection control staff were not employed, and no negative pressure rooms were available.

Figure 9.

A large number of HIV-infected patients had cryptococcal meningitis and treatment included repeated lumbar punctures to lower intracerebral pressure to improve symptoms and improve clinical outcome.

Figure 10a shows a patient with cryptococcal meningitis. This was treated with lumbar puncture with removal of cerebrospinal fluid which can be seen flowing from the lumbar puncture needle port under high pressure (Fig. 10b). If repeated lumbar punctures were required to lower intracerebral fluid pressure a lumbar drain was inserted by the physician at the bedside.

Figure 10a

Figure 10b

Healthcare workers in Cambodia and other developing countries are exposed to patients with active untreated tuberculosis in the absence of airborne transmission precautions and have an increased risk of infection with Mycobacterium tuberculosis\(^9\). This includes visiting healthcare worker from industrialized nations\(^10\), who also have an increased risk of acquiring tuberculosis in hospitals in developing countries. The author did encounter only one healthcare worker – a hospital cleaner - in Afghanistan wearing a surgical mask for prevention of airborne transmission of tuberculosis. In Cambodia the author observed in total fewer than five healthcare workers wearing surgical masks for prevention of airborne transmission of tuberculosis.

Figures 10b & 10b

Figure 11 - taken on the medical ward main corridor - shows a box on the floor filled with used injection needles. The box is overfilled and is not a biohazard sharps container. Many patients on the floor were HIV-infected and the image presents an important source regarding the risk of acquiring blood borne infections such as HIV, hepatitis B virus (HBV), and hepatitis C virus (HCV) in the hospital and outside. The observation underlines that as part of support and development, infection control should be increased to secure the safe disposal of used injection needles and other biohazards and prevent transmission of blood borne infections.

Figure 11.
Conclusion

The article summarizes clinical work experience in two developing countries, Afghanistan and Cambodia. The experience is notable for the reliance on physical signs and limited investigations of economically disadvantaged patients in an environment characterized by poverty and poor security due to civil war. The work experience in the two countries has underlined the importance of hospital infection control to prevent tuberculosis and bloodborne (e.g. HIV, HBV, HCV) infections acquired in hospital and the usefulness of long-term collaboration between developing and developed countries.

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References


