

Occasional essay

Hospital medicine in Cambodia: a visiting doctor's perspective

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In 1998 I spent a year in the department of medicine at Calmette Hospital in Phnom Penh. Relative to other hospitals in Cambodia, Calmette was fairly well equipped. It was staffed with professionals, some of whom had trained abroad, and the level of care provided appeared to be at least equal to that of other public hospitals in the country. Nevertheless, resources for the treatment of HIV infection were desperately inadequate, and in this essay I attempt to convey the implications of this for patients in the terminal stages of AIDS, as well as some aspects of working as a hospital physician in Cambodia. During my year in Cambodia I learned Khmer to an intermediate level, which allowed me to talk to patients and to gain some insight into their circumstances. The accompanying photographs were taken with the permission of the patients, some of whom expressed their desire to make people in other countries aware of the situation in Cambodia.

Historical and social context

Bordered by Vietnam, Laos and Thailand, the Kingdom of Cambodia has a population of 11.2 million, of whom 21% live in urban areas. The major ethnic groups are the Khmer (90%) and the Vietnamese (5%). Khmer is the official language; 95% of the population are Theravada Buddhists.¹

Cambodians have endured decades of violent political upheaval since they gained independence from the French in 1953. In the 1960s, as the United States became more deeply involved in the conflict in Vietnam, Cambodia's position became increasingly precarious. The Vietcong used areas of Cambodia as a sanctuary from which to launch attacks against South Vietnam. This led, in 1969, to secret bombing raids by the Americans. In the meantime, political opposition against the head of state, Prince Norodom Sihanouk, was gaining momentum through the Khmer Rouge, a fanatical communist faction.

In April 1975 the Khmer Rouge took control of the capital, Phnom Penh, and embarked on a reign of terror in which an estimated 1.5 million Cambodians died. Their ruthless attempt to "reinvent" Cambodia as a communist



Most Cambodians live in rural areas, where they support themselves through farming.

agrarian society resulted in mass evacuations, summary executions and the decimation of the professional classes, not to mention severe food shortages and the deterioration of the health of the population. Eventually, the Khmer Rouge was weakened by purges within its own ranks and by fighting on the border with Vietnam, and in 1978 the Vietnamese, with dissident Cambodians, took control of Phnom Penh, routing the Khmer Rouge and installing a puppet government.

In 1982, under pressure from the United Nations, a coalition government was formed. The Vietnamese began to pull their troops out in 1988. Sihanouk's son, Prince Norodom Ranariddh, won a UN-sponsored election in 1993, but was forced by the politically unstable situation to form a coalition government with Hun Sen, a former Khmer Rouge leader. In 1997 Ranariddh was toppled in a coup by Hun Sen, who continues to be Prime Minister of Cambodia.²

Current Cambodian politics is characterized by a party system based on doubtfully democratic elections, internal

political instability from violent political groups and a still-active Khmer Rouge party, which has never been tried for its atrocities. The country is burdened by a weak economy, an inadequate infrastructure and a fragile health care system.

The social and economic impact of decades of war, repression and political instability has been profound. Cambodia is now one of the poorest countries in the world, ranking 166th out of 191 countries according to health system attainment (the United States ranks 15th, Afghanistan 183rd and Sierra Leone 191st).³ Life expectancy at birth is 52 years for men and 55 years for women, as compared with 74 and 80 years respectively in the US. The under-5 mortality is 122 per 1000 live births (8 per 1000 in the US); maternal mortality is 470 per 100 000 live births (8 per 100 000 in the US).⁴

Rural households support themselves, through farming, on a monthly income of less than US\$10. An average rural family has 5 or 6 children and lives in a small village in a wooden hut with one main room and no access to electricity or running water. Only 36% of Cambodians have access to safe drinking water. Most villages have a school, and education is free, although not all parents can afford the daily expenses for teaching material of Riel 2000 (US\$0.50). Twenty percent of men and 47% of women are illiterate.⁵

The high rate of poverty leads to girls being pulled out of school and sold by their families, for a lump sum or a regular payment, to work as prostitutes. Commercial sex is available for between US\$0.20 and US\$20.00. Child pros-



This 16-year-old girl was admitted after she presented with a generalized skin rash, neck swelling and a 2-month history of productive cough. She was an orphan, and worked as a seller in one of Phnom Penh's markets. No chest x-ray or HIV test was performed. The clinical diagnosis was pulmonary tuberculosis and AIDS. Management was with antituberculosis medication. After 2 weeks her condition deteriorated and she was unable to take fluids or medications orally. No intravenous fluids were prescribed. She died after 4 weeks in hospital.

titution was still common in Cambodia when I was there, despite the introduction in 1996 of legislation against the kidnapping, sale and exploitation of "human persons."^{5,6}

HIV infection in Cambodia

An estimated 120 000 Cambodians, or 1% of the population, are infected with HIV. Most infections occur as a result of unprotected sex with commercial sex workers, who are visited by over 50% of men in Cambodia. Estimates of HIV prevalence among commercial sex worker in Phnom Penh and in the provinces bordering Thailand range from 37% to 50%; these are the highest figures in Southeast Asia.^{5,6} In the general population, about 2.5% of pregnant women, 4.0% of blood donors, and 8–9% of police and military personnel are infected with HIV.⁶

Tuberculosis is also common. An estimated 40 000 new tuberculosis infections occur each year; 12.6% of Cambodians with tuberculosis also have HIV infection.⁶

Of the 205 consecutive patients that I encountered during a 4-week period at Calmette Hospital, 40 (19.5%) had AIDS. Other common diagnoses included gastritis or peptic ulcer disease (18/9%), tuberculosis (16/8%), liver abscess (14/7%), congestive heart failure (14/7%), diarrhea and dysentery (6/3%), liver cirrhosis (6/3%), cerebral malaria (3/1%) and hepatocellular carcinoma (3/1%). Six (3%) patients had aplastic anemia, a diagnosis frequently encountered in Cambodia and which is suspected to result from uncontrolled access to chloramphenicol and co-trimoxazole, which are both available at low cost without prescription.



This 22-year-old woman had worked in Cambodia and Thailand as a commercial sex worker. Admitted to hospital with cough and weight loss, she was known to be HIV positive. A chest x-ray showed upper right lobe shadowing. Management was with ampicillin. Her condition deteriorated in hospital, no intravenous fluids were given (for unknown reasons), and after 10 days she died from dehydration and chest infection probably with pulmonary tuberculosis. The room shown had beds, a sink with tap water, a bathroom and an assigned nurse and doctor. Patients with active tuberculosis were not isolated and no face masks were used.

Caring within constraints

Calmette Hospital was built in 1950 and received support from several French organizations. During my stay there it was staffed by 30 physicians and surgeons and 50 nurses. There were 250 beds, as well as facilities for minor and major surgery and for obstetrics, a 10-bed intensive care unit, and hematology, biochemistry and microbiology laboratories. The hospital had radiological facilities including ultrasound and echocardiogram, but no computer tomography. On a typical morning, a staff physician would start at 9 a.m., seeing about 10 patients and leaving between 11 a.m. and 12 o'clock. During the rest of the day the floor had an on-call physician and nurse for emergencies. All physicians had private clinics in Phnom Penh; because the hospital salary was only about \$50 per month, they depended on their clinic earnings of about \$400 per month.

Medical care was free in the part of the hospital where I worked, which had about 40 in-patients. In a separate part of the hospital medical care was available on a fee for service basis; there, rounds and attendance by health professionals would be more frequent, and the building was maintained to a higher standard.

Among a subset of 22 patients that I surveyed, the average travel time to the hospital was 2.6 hours by cab, by hired motorbike or on foot. None of the patients owned a car or motorbike, and no other form of public transport was available. The average travel cost was Riel 4100 (US\$1). As is typical in poor countries, the large distances to reach treatment centres present a serious obstacle, and it is likely that patients from remote provinces of Cambodia were not able to obtain hospital-based care.

Care provided through private clinics was generally preferred by the population, although a consultation in a private clinic in Phnom Penh cost US\$2–US\$3, beyond the means of most Cambodians. As a result it was common for Cambodian patients to first visit a village healer, Buddhist monk, shopkeeper or pharmacist to

seek treatments such as cupping, intradermal rubbing with herbs, cauterization, faith healing or Chinese herbal medicine.⁵ In Cambodian culture, a person is perceived to be sick only when he or she has symptoms; the concept of asymptomatic disease, as in the early stages of HIV infection, is not generally accepted.

Tuberculosis is a major public health problem in Cambodia. Although diagnosed patients are given standard treatment (4–8 months of therapy with 3–5 antituberculosis medications), it is difficult for patients to comply. Patients must collect their medication monthly from the hospital, despite the obstacles presented by long distances, poor roads and the high cost of public transportation. There was no system in place at the hospital to trace noncompliant patients, to enforce Cambodia's National Tuberculosis Program guidelines for repeat sputum culture to monitor drug resistance, or to audit cure rates.⁷



This 22-year-old man with HIV infection was admitted with a presenting complaint of drowsiness. Examination showed dehydration and neck stiffness. The management in hospital was with cotrimoxazole, loperamide, paracetamol, multivitamin tablets and intravenous fluids.

After a few days all medications were stopped. The recording of vital signs on the bedside chart was discontinued on day 5, apparently because the prognosis was poor and the patient had no relatives able to provide nursing care and act as his advocate. He died 4 days later. The decision to discontinue therapy was made by the physician taking care of the patient without discussion with colleagues or a committee.



Although medical attention and pharmaceuticals could be obtained free, the available expertise, diagnostic procedures and compendium of drugs were extremely limited. During my stay in Cambodia postgraduate training in internal medicine appeared to consist of working in one of the few departments of medicine for two and a half hours every morning. There was no rotation between subspecialties or organized training by senior physicians. Access to up-to-date information on medical therapies was limited.

In my observation, physicians relied more on history than on physical examination in making diagnoses. Detailed pathophysiologic explanations of the possible nutritional causes of anemia were avoided, probably because of the limited investigations and drugs available; this resulted in unspecific diagnoses such as “anemia of unknown cause,” an imprecise approach to drug therapy. Diagnosis was guided by the availability of drugs, and treatment was often presumptive, covering different possible diagnoses at one time. For example, any prolonged fever in immunocompromised patients was treated as tuberculosis, partly because antituberculosis medications were free. All patients with AIDS, with and without diarrhea, received loperamide. Patients with “anemia” received intravenous vitamin K and intramuscular vitamin B₁₂.

Patients had a high expectation of receiving tablets, intravenous fluids and injections, especially in private clinics; if such treatment was denied, even with an explanation, the

patient was likely to lose confidence in the physician and leave the hospital. In the care of the 205 patients in my survey, the most commonly used drugs were intravenous fluids (48%), multivitamins (33%), acetaminophen (29%), ampicillin (15%), co-trimoxazole (15%), antituberculosis medications (rifampicin, isoniazid, pyrazinamide, ethambutol; 14%) and metronidazole (14%). In private clinics, patients commonly received intravenous fluids and injections for a common cold or “tiredness.” Drug administration often differed from established standards with respect to dose and frequency, partly because underpaid staff were unwilling to increase their workload by making more frequent drug rounds. A number of drugs of unproven efficacy were used. For example, carbazochrome was given for upper gastrointestinal bleeding, vitamin B₁₂ and ethamsylate for aplastic anemia, co-dergocrine mesylate for stroke, and intravenous calcium for indications other than hypocalcemia and hyperkalemia. Patients with nonsevere *Plasmodium falciparum* malaria were given intravenous quinine, although guidelines recommended mefloquine as the first-line drug.

Chronic diarrhea in patients with AIDS was treated with loperamide and co-trimoxazole, metronidazole or ofloxacin. Patients with AIDS and fever of unknown origin with or without abdominal lymphadenopathy were treated with antituberculosis medication. For patients with cryptococcal meningitis amphotericin (an expensive medication at about US\$50 per day) was available because of foreign support.

Patients with AIDS received treatment like other hospital patients, although antiretroviral medication was not available. These patients, however, were commonly the sickest patients on the floor, and those who had no relatives to take care of them were, transferred to separate rooms. As in many poor countries, it is not a part of nursing care in Cambodia to wash or feed patients; if relatives were not available, such care was simply not provided.

The photographs that accompany this essay put a human face on the deficiencies of hospital care in a country that is still recovering from the social, cultural and economic losses of war. To improve the poor state of hospital medicine in Cambodia, drug therapy should be limited to medications with proven efficacy. Effective regulation of drug prescribing is needed, along with adherence to national guidelines for the treatment of illnesses such as tuberculosis and malaria. It is also of critical importance that antiretroviral drugs be made available and that physicians and nurses in Cambodia receive modern training in the diagnosis and management of HIV-infected patients.



This woman had AIDS with chronic diarrhea and weight loss. At the time this photograph was taken she was receiving intravenous fluids, oral trimethoprim-sulfamethoxazole and loperamide. No antiretroviral drugs were available. This woman’s infection is likely to have resulted from her husband’s contact with a commercial sex worker. The child will receive care from relatives or friends or enter an orphanage.



In Cambodia illness affects all members of the family. This patient has AIDS and his spouse and children must travel long distances at a high cost to reach the few secondary care centres in the bigger cities. An unknown number of people with HIV infection do not seek care beyond that available in their own villages and die at home. Social security as it is known in Western countries does not exist in Cambodia. One hopes that when this father dies, relatives and nongovernmental agencies will assist his wife and children, but they will also have to seek some kind of work including prostitution or begging.



From a wider public-health perspective, increased efforts in AIDS prevention are urgently required, along with an effective national tuberculosis program and more financial support for primary and secondary health care. Not least, progress will require the support of health professionals in developed countries. This can be achieved by establishing links with colleagues in Cambodia, whether through the Internet, e.g., by providing free online access to journals and textbooks (the Internet was available in the department where I worked) by sending journals and textbooks, by sponsoring visits from Cambodian physicians, by working for a time in an institution abroad, or by conducting research projects of interest to both sides.⁸

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