Diseases in Migrants


Few published observations exist on health problems of immigrants from Africa. The authors describe a study of 102 such immigrants (57 from Somalia, 14 from Ethiopia, and the remainder from 10 other African countries) to the USA, seen during a 7-month period in an urban clinic.

Tuberculin tests on 91 patients yielded 47 (52%) positives. Although a few patients reported BCG vaccination during childhood, most could not remember. Chest radiographs showed evidence of tuberculosis (TB) in 10 patients. Eight of these had active TB as confirmed by positive cultures in five, or based on radiological improvement following appropriate treatment. The median age of patients with TB, who had been in the USA from 1-48 months (median 8 months), was 29 years. There was no clustering of the cases in households or with regard to countries of origin. A significant number of TB cases clearly had been missed by the immigration screening program. This was probably due to three cases having entered without a visa and one having entered on a student visa which does not require radiography. Two had extrapulmonary disease and the others may have been incorrectly diagnosed as having inactive infection.

Hepatitis A IgG was present in 100% of 61 patients tested, HBsAg occurred in 14% of 73 patients tested, and two patients (3% of 59 patients) had antibodies against hepatitis C virus. One of the latter had received an inactive vaccination during childhood, most could not remember. Chest radiographs showed evidence of tuberculosis (TB) in 10 patients. Eight of these had active TB as confirmed by positive cultures in five, or based on radiological improvement following appropriate treatment. The median age of patients with TB, who had been in the USA from 1-48 months (median 8 months), was 29 years. There was no clustering of the cases in households or with regard to countries of origin. A significant number of TB cases clearly had been missed by the immigration screening program. This was probably due to three cases having entered without a visa and one having entered on a student visa which does not require radiography. Two had extrapulmonary disease and the others may have been incorrectly diagnosed as having inactive infection.

Intestinal parasites were common, though none of the positive patients was symptomatic. Of 53 sets of two or three stool specimens per patient, 17% (nine sets) had pathogenic parasites, sometimes more than one species, such as Entamoeba histolytica (2), Trichuris trichiura (7) and one set each of Schistosoma mansoni, Ascaris lumbricoides and Dientamoeba fragilis. Nonpathogenic parasites were found in 15 patients while 29 had no parasites. Other pathogens included Plasmodium vivax (1), scabies (1) and evidence of syphilis in one patient. Human immunodeficiency virus antibodies were present in two of 27 patients tested, of whom one died of acquired immunodeficiency syndrome (AIDS) during the study.

Although many patients were refugees from African countries in upheaval, they had been in the US for some time and none appeared to be malnourished or chronically ill. The authors emphasize the importance of early and careful screening of immigrants from Africa, even in the presence of a healthy appearance and prolonged residence in their new country.

Malaria


Splenomegaly may cause significant symptoms and physical examination may indicate splenic enlargement. Splenic rupture, although a rare complication of malaria, is an important life-threatening event. A 31-year-old Afghan from Pakistan arrived in Kuwait 10 months before hospitalization with an 8 day history of fever, rigors and myalgia. Examination revealed hepatosplenomegaly and laboratory tests showed a normal hemoglobin and white cell count, but decreased platelets. Parasites of Plasmodium vivax were present for which the patient was started on chloroquine therapy. Signs of shock with vomiting, abdominal pain, rigidity and tenderness, which were maximal in the left hypochondrium, developed on day 2. Ultrasound showed some intra-abdominal fluid, but splenic surfaces appeared to be intact. Hemoglobin had dropped from 14.4 to 10.0 g/dL. Laparotomy revealed a 7 cm splenic tear on its diaphragmatic surface, with hemorrhage and clots in the peritoneum. Splenectomy with chloroquine and primaquine therapy were followed by an uneventful recovery.

Spontaneous rupture is not a feature with the large, often massive fibrotic spleens seen in chronic infections such as hyperactive malarial syndrome and visceral leishmaniasis. It is most commonly associated with acute vivax malaria. This may be related to the greater degree of splenomegaly in the vivax variety than in acute malaria due to other plasmodial species. A high index of suspicion is needed for the early diagnosis of splenic rupture. Progressive cardiovascular collapse, a falling hematocrit and, especially, left shoulder pain due to diaphragmatic irritation (Kehr's sign) are important signs. Laparoscopy, ultrasonography or abdominal CT scan are valuable for confirmation of the diagnosis. Splenectomy has long term implications for the patient, especially for those liv-
According to the World Tourism Organization, some 40 million people from nontropical countries visit malaria areas annually. Of these, as many as 30,000 contract malaria. The reported per capita rate of malaria imported to Canada is 5 to 10 times higher than that in the USA, and is increasing. Other studies indicated that immigrants from malaria areas who return there for a visit, account for the majority of imported malaria cases. It has also been shown that in up to 97% of cases, inadequate or no chemoprophylaxis had been practiced. To determine the reason for this finding, a questionnaire-based study was performed during a 6-month period on Canadian residents and citizens at Pearson International Airport, Toronto, while in the departure lounge prior to boarding flights for India. It was thought that interviewing travelers immediately before, rather than after travel, would yield more accurate data on travel preparation and practices.

Of 307 travelers who participated in the study, 54% had obtained pretravel medical advice and 34% reported previous malaria in themselves or a relative. Of 283 respondents, 94% planned to visit a malaria area for an average stay of 7 weeks, in a private residence by 95%, located mostly in urban areas (94%). However, only 27% believed that they would be at definite risk of contracting malaria during their trip and 31% intended to take prophylactic drugs with chloroquine being most commonly prescribed (41%), followed by mefloquine (20%), doxycycline (3%) and sulfadoxine-pyrimethamine (1%). General practitioners were significantly more likely to prescribe chloroquine than travel clinics or public health centers. Only 24% of travelers had been prescribed chemoprophylaxis as recommended by Canadian, American or World Health Organization (WHO) authorities. Of 140 travelers who did not seek pretravel advice only six (4%) intended taking an antimalarial drug. Among the 213 respondents who did not intend to practice chemoprophylaxis, 34% believed they were not at risk of acquiring malaria and the remainder included individuals who were either unaware of a need for precautions (17%), or believed that they were immune to malaria (14%) or stated that they had been "vaccinated" against malaria (2%). Very few of the 307 respondents (10%) intended using at least two of the commonly recommended measures to avoid mosquito bites. Increased use of chemoprophylaxis occurred in travelers who were older, had been resident in Canada for longer or who had a history of malaria in the family.

Several studies suggest that travelers visiting their country of origin are more likely to acquire malaria than other tourists or local residents. The finding in this study that only 54% of travelers had sought pretravel advice was much lower than data reported for tourists from the USA and Britain (80% to 95%). Even so, the great majority of this group did not intend to use a recommended drug regimen nor antimosquito measures. It is a matter of concern that the findings of this study indicate no improvement in personal malaria precautions since the last survey published 20 years earlier. The authors concluded that education about malaria risk and appropriate preventive measures should be targeted especially at Canadians visiting endemic countries of origin. Also, physicians must more effectively communicate malaria precautions to travelers seeking advice.


Population explosions, increased population movements and associated changes have modified malaria epidemiology and adversely affected attempts at malaria eradication. In New Delhi, India, some 80 brick kilns which support incessant building operations, mostly employ seasonal migrant workers from malaria endemic rural areas. This paper gives the results of a malaria survey on 400 people living or working at one of these kilns. It was shown that 101 study subjects had low-grade fever affecting mainly older children (5-14 years) and adults. Of these, 27.7% had malaria parasites on blood film microscopy, all but one subject having Plasmodium falciparum. Significantly, 35% of the parasitemic subjects, mostly children, had a mixture of trophozoites and gametocytes. Gametocytes, representing the infectious stage of the parasite for mosquitoes, are thus potentially capable of establishing new reservoirs of infected malaria vectors. Increased malaria transmission due to a high rate of gametocyte presence in peripheral blood, is probably offset by most of the seasonal workers returning to their homes and therefore being absent from the city during the monsoon season when peak malaria transmission normally occurs. However, if the timing of seasonal movements should change so that the workers remain in
Delhi during the rainy season, outbreaks of malaria in the city may occur as a result.

Rickettsial Infections


Murine typhus is a cosmopolitan infection caused by Rickettsia typhi which is transmitted by fleas from an infected rodent reservoir. Cases of murine typhus have previously been reported in travelers returning from Canary Islands, India, Morocco and other parts of Africa, Nepal and Spain. This article reports the first serologically documented cases in travelers returning from Indonesia.

Case 1: A 29 year old man from France, who had a 2-day history of fever, was hospitalized 2 weeks after his return from Bali, Indonesia. There was no history of arthropod bites. Examination revealed a temperature of 40°C and an absolute bradycardia, but no rash or other abnormalities. Laboratory findings included raised alanine aminotransferase (ALT) and aspartate aminotransferase (AST), lactate dehydrogenase (LD) and C-reactive protein, a low white blood cell count and negative serial blood films for malaria. He made an uneventful recovery following a course of doxycycline plus rifampin.

Case 2: A young man in Belgium, who undertook a trip to Indonesia, including Bali, 3 weeks prior to hospitalization with a 6-day history of fever. No arthropod bites were reported. On examination, his temperature was 38°C but, except for a few skin ulcerations in the inguinal region, there were no other abnormalities. Hematological and blood chemistry investigations yielded normal values. Malaria blood films were negative.

Case 3: A young man in Belgium, undertook a trip to Indonesia, including Bali, when he became acutely ill with a fever of 40°C, shivers, myalgia, but no rash. He reported multiple arthropod bites. In Indonesia, he was unsuccessfully treated with amoxicillin, followed by cefuroxim-axetil. This severely ill patient returned to Belgium where he was found to have bilateral conjunctivitis, splenomegaly, raised ALT, AST and C-reactive protein levels. CSF examination showed a pleocytosis with a predominance of polymorphonuclear cells. Blood films showed no parasites. The patient recovered rapidly on empirical treatment with quinine, doxycycline and a quinolone.

The incubation period and the duration of untreated murine typhus range from 7 to 14 days. Although murine typhus classically presents with fever, headache and a skin rash, the latter is more commonly absent, transient or unimpressive, as shown by these three cases. This may result in a failure to suspect murine typhus on clinical grounds. Other features of murine typhus include arthralgia, myalgia, respiratory and gastrointestinal symptoms, leukocytosis or leukopenia, anemia, thrombocytopenia and hepatic and renal dysfunction. A single 200 mg dose of doxycycline is usually effective.

Immunofluorescent assay (IFA) showed all three patients to have acute phase IgM against R. typhi ranging in titer from 1:256 to 1:1024 and IgG ranging from 1:256 to 1:512. Lower, cross-reacting titers occurred against R. prowazeki, the agent of epidemic louse-borne typhus fever and R. conorii, the agent of tick typhus. After absorption of the sera with the R. typhi antigen, these tests became negative against all three rickettsias, whereas absorption with R. prowazeki and R. conorii resulted in the disappearance of their homologous antibodies, but not of those against R. typhi, thus confirming the specific diagnosis of murine typhus.

Although there are epidemiological and clinical differences between the various rickettsial diseases, diagnostic confirmation requires rickettsial serology. The occurrence of cross-reactions, as shown here, makes cross-absorption a useful procedure to obtain a species-specific diagnosis. The authors suggest that murine typhus is common in travelers and that increased travel will lead to an increase in reported cases.

Telemedicine


"It's time to embrace the concept of the informed patient and use their [sic] websurfing skills" summarizes the message of this case report. The patient in this case was an infant which, by means of ultrasound at 18 weeks prior to birth, was thought to have an axillary cystic hygroma. As the pregnancy progressed, the ultrasound appearance became atypical and a diagnosis of Klippel–Trenaunay-Weber (KTW) syndrome was entertained. After birth, the diagnosis was changed once again when the clinical features became most consistent with those of Proteus syndrome.

The parents, who were intelligent and well-informed with access to the Internet, repeatedly refocused their web searches in accordance with the changing medical opinions. They found it difficult to handle these changes which negated their own focused efforts and eroded their confidence in their medical advisors. The latter, who also carried out web searches to obtain more information on these uncommon syndromes were, however, not able to spend as much time on this activity as the parents.

To save time and to avoid unnecessary duplication of effort, they arranged with the parents that the latter would supply the doctors by e-mail with selected data from
the Internet. The parents located an international Proteus support group as well as other sources of valuable data. Thus they found information that proved useful in the management of the baby's ulcerating hemangiomas. Also, by scanning and e-mailing serial photographs taken of these lesions at home, the number of clinic visits could be reduced.

The authors suggest that the most unique challenge for doctors with regard to the concept of telemedicine is having to deal with the ready availability of electronic resources to their nonprofessional patients. As a result, some patients may gain more up-to-date and comprehensive information about a single clinical condition than their family practitioners.

It is recommended that, in selected cases, patients or their families may serve as librarians and research assistants, especially where rare diseases or unusual management options are concerned. Patients should, however, be alerted to the variable quality and integrity of Internet sources, and the difficulty in separating the wheat from the chaff. The reality that quackery is offered at many websites, often to exploit unwary readers, should also be noted.

Despite these drawbacks, accepting the Internet as a new tool in patient education, may create a pattern of cooperation and teamwork that operate to mutual benefit.

Travel Medicine


Before planning health education and promotion campaigns, it is important to identify those individuals who most often practice sexual risk behavior while traveling abroad. This study focused on young persons from the UK traveling abroad without a sexual partner, as such persons, in earlier studies, were most likely to report a new sexual partner. Using a two-stage sampling technique, eligible participants were selected from some 39,000 survey respondents. The selected participants numbered 400, were aged 18–34 years and had traveled abroad without a partner during the preceding 2 years. Included was a control group of 568 persons who met all the eligibility criteria except that they did not have a new sexual partner while traveling during the same period. The main outcome measures were sexual intercourse abroad with a new partner, unprotected intercourse with the last partner abroad and four or more episodes of unprotected intercourse with the last partner abroad.

Reports of new sexual partners abroad were significantly associated (p < .01) with male gender, traveling with friends, being on holiday, carrying condoms, being single, having had casual partner(s) in the UK in the previous 2 years, age 18–24 years, first sexual experience at less than 16 years of age, a trip of 15 days or longer, being far from home (e.g., Australia), expecting a new romantic or sexual relationship on the trip, and with being "a little drunk" more than twice on the trip. There were also significant associations between four or more episodes of unprotected sex and a variety of other variables including: belonging to the highest professional/senior administrative socioeconomic grade (A/B), a previous episode of sexually transmitted disease (STD), no condom use during the 2 years prior to the trip and failure to carry condoms. However, most subjects (75%) who had new sexual relationships abroad, practiced safer sex.

Among those who reported a new sexual relationship abroad and had one or more casual sexual partners in the UK, 64% reported regular condom use. This relatively high figure should not be taken to indicate that continuation of sexual-health campaigns is unnecessary since, firstly, such campaigns are needed to sustain the continuation of safer sexual practices and to encourage these in the next generation of young travelers. Secondly, the results of this study indicated that targeting young people who are sexually active abroad, would also reach people who have many new sexual partners at home. The risk behavior of men abroad reflects their behavior at home, but that of women abroad is often determined by their sexual partners. Future campaigns should therefore be sensitive to gender differences in sexual risk behavior.