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Imported Diseases in General Practice

Check-ups After Travel

H. A. K. ROWLAND

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Persons having entered this country are often referred at their own or their doctors' request for a "check-up"; some who work overseas are regularly seen during their home leave at their own request or that of the firm or organization which employs them. Such persons may be divided into (a) those who have made a comparatively short visit overseas as a traveller or under the auspices of a voluntary organization; with the great increase in travel some may spend one or two years sometimes working, sometimes moving about the world; (b) those who work overseas in the employ of British firms, foreign governments, the British Government, or missionary societies; such persons spend longer periods abroad. Missionaries especially may live in rural areas, whereas others may spend most of their time in or around large towns; (c) those entering Britain for the first time as immigrants or visitors; there has been a great increase in the number of those travelling overland from Australia and New Zealand, through Asia to this country.

Those seen may have been in any part of the world but at present those from India, Pakistan, and the Far East constitute the largest group followed by those from Africa and then the Middle East, South America, and New Guinea. Though visitors to parts of Europe not infrequently require medical attention on their return to this country they seldom request a check.

The circumstances under which individuals have lived before entering this country vary greatly; at one extreme are those who have spent a short time in a top-grade hotel in a large tropical city and those who have lived in their own house with good facilities—water supply, sewage disposal, fly screening, and perhaps air-conditioning. At the other extreme are those who have "lived rough," sometimes by intention and sometimes because their money has run out or because they have been ill. Some have lived in religious institutions or with nomads; some have worked under poor conditions in refugee camps; and some in

street dispensaries in the slums of a large town. Immigrants often visit their home country after years in Britain and perhaps spend several weeks in an African village or a small Indian town. Some make their journeys by air, some by train and bus; some hitchhike; many travel in parties in Land Rovers; and at least one person I saw made a long journey alone and on a bicycle.

Symptoms

There are those who remain perfectly well but they constitute a small minority; one young man wandered around Africa for five years sleeping outside, drinking water and eating food from any source; he took no malaria suppressives, he had no ill health whatsoever, and on investigation in London when he returned no parasite was found. Undoubtedly, diarrhoea is the commonest symptom of those travelling or living overseas. In many, though frequent, it is not incapacitating and is often considered a part of the visit. In some, however—and especially in those visiting Asian countries—it is severe, persistent, and debilitating; true dysentery in that blood is passed afflicts some, while in many there is loss of appetite and profound loss of weight.

Febrile episodes are less common but may be troublesome to children of families living overseas; jaundice again especially occurs in overland travellers in Asia and some have long and severe illnesses. A history of skin troubles is sometimes obtained. This often sounds as though prickly heat or a fungus infection has been responsible; skin irritation in those who have lived in West Africa suggest onchocerciasis, and haematuria a schistosome infection. Not infrequently patients have seen "worms" in their own or their children's stools.

Few patients have had any investigations while they have been abroad—or at best these have been inadequate: distances are great; travellers are often impecunious; and facilities are scanty. Some have had no treatment but "lie-up" for a few days; others have treated themselves with medicines they have taken with them or have bought locally—while some have sought medical attention, which has often resulted in multiple therapy with tablets, capsules, and injections partly owing to lack of diagnostic facilities. Very often the doctor here does not know what has been the matter when the patients present for a check in this country. Pyrexia is so often diagnosed as malaria, giving

the impression that a suppressive has failed to protect and in some parts all diarrhoea is attributed to amoebiasis.

Here we are concerned with patients who when seen are asymptomatic; those with specific symptoms have been dealt with in other articles in this series. Physical examination of such persons usually shows no abnormal signs—but occasionally they may be thin, there may be healing insect bites on the limbs, and the spleen may be palpable.

Stool Examination

A "worm" is sometimes seen by a patient in the specimen of stool, but examination shows this to be mucus or vegetable matter; segments of tapeworm or a roundworm or thread worm may be found and the infection should be treated. Microscopic examination of a formed stool may show cysts, ova, or larvae. Amoebic cysts may be those of *Entamoeba histolytica* or the small race *E. hartmanni* and in persons who have been overseas it is customary to consider the latter as pathogenic, though there is some evidence to the contrary. Such amoebic infections should be treated because of the possibility of diarrhoea, dysentery, or liver abscess whether or not the patient has had bowel symptoms while overseas, and is effective. Similarly patients whose stools show cysts of *Giardia lamblia* should be treated; in some this is an incidental finding on routine examination but many have had intestinal symptoms while away; again treatment is effective. Several other cysts such as those of *E. coli* and *I. butschlii* may be found but these call for no action.

Ova found in the stools may be those of intestinal helminths or of schistosomes; a diagnosis of roundworm (*Ascaris*), whipworm (*Trichuris*), and hookworm (*Ancylostoma* or *Necator*) infection is made by stool examination. Ova of threadworms (*Oxyuris*) are rarely found, the diagnosis being made by finding the adult worm or ova in a perianal swab. Similarly tapeworm (*Taenia*) ova are seldom found in the stool, the diagnosis depending on the identification of segments which may be passed with or without stool. Treatment for roundworm and tapeworm is satisfactory, whereas that for whipworm is less so. Complete eradication of a hookworm infection may require more than one course of treatment while that of threadworm is notoriously difficult, no doubt partly owing to reinfection among members of a family.

Schistosoma mansoni (and much less commonly in Britain, *S. japonicum*) ova may be found in the stools of those who have not had symptoms. Patients seen in Britain are mainly from Africa, the Middle East, and St. Lucia and rarely from South America. It is those from Saudi Arabia and Egypt who show the important effects of the infection, and hepatic fibrosis is much less common in those from East and West Africa—perhaps because there infections are not so heavy. Because of the possible serious effects schistosome infections should be treated and with few exceptions they can be eradicated by a single course.

Larvae of *Strongyloides stercoralis* may be found in the stools; often the patient gives no suggestive history but may have had cough and wheeze; a two-day course of treatment is effective.

Stool culture is a routine procedure at the Hospital for Tropical Diseases, in London, and salmonellae are sometimes found in asymptomatic patients; shigellae are also sometimes found but *Vibrio cholerae* has so far not been isolated. Provided home conditions are satisfactory it is probably better not to treat such asymptomatic salmonella infections; if undertaken, it should be carried out energetically and in hospital.

Eosinophilia

An eosinophil count is a useful screening test; a raised count (above 400/ μ l) is diagnostic of nothing but prompts further

investigation since such counts are found in many parasitic infections and allergic conditions. It is those parasitic infections in which there is a tissue phase which are associated with eosinophilia: thus infections with *E. histolytica*, *Taenia saginata*, and *G. lamblia*, which live wholly or mainly within the lumen of the bowel, are not associated with a raised count. On the other hand, hookworm, schistosome, and strongyloides infections—in which the parasites invade the tissue—are associated with eosinophilia, especially during the early migratory phase. A patient with a longstanding schistosome or hookworm infection often has a normal eosinophil count but this may rise with the death of the parasite after treatment. The filarial infections due to *Wuchereria bancrofti*, *Loa loa*, and *Onchocerca volvulus* likewise produce an eosinophilia. Thus a raised count suggests further investigation but a normal count does not exclude a parasitic infection especially in those exposed for a long period of time.

Clearly where the patient has been will dictate the investigations undertaken: though the intestinal helminths are universally found, there is no onchocerciasis or schistosomiasis in India and loaiasis is confined to West Africa. When appropriate, investigations for filariasis consists of the examination of day and night blood and skin shavings for microfilariae; a complement fixation test is available but is negative in many with a proved infection. Certain diagnosis of schistosomiasis depends on finding ova in the stools, urine, or rectal snips; again, there is a complement fixation test but, again, false-negative results occur.

Malaria

Patients would often like to know whether they are free of malaria, especially if they have had febrile attacks while overseas. Recrudescence of falciparum malaria rapidly becomes less likely as time passes after arrival in Britain and in general a blood film taken from an afebrile patient is negative for parasites; the exception is patients who are immune and especially children, and it is not uncommon to find *Plasmodium falciparum* in the peripheral blood film of children recently arrived in Britain for the first time from an endemic area of the tropics. In general, therefore, blood films are unrewarding as part of a check. This is also true of other malaria infections; it is rare, for example, to find *P. vivax* in the blood of an asymptomatic patient but relapse may occur months or even a year or two after entry into this country.

Other Investigations

Radiological examinations are sometimes indicated; patients may ask for a chest x-ray film and in any case this might be undertaken in those who have lived for longer periods under poor circumstances overseas or who have been especially exposed. Similarly patients are sometimes concerned about the possibility of leprosy and again they are usually those whose work has brought them into contact with the infection. The diagnosis is made or excluded by a physical examination with biopsy of suspected lesions but clearly a single examination is inadequate.

In those giving a history of haematuria or treatment for schistosomiasis an intravenous pyelogram may show a dilated renal pelvis or ureter or other change; cystoscopy is then indicated. When there is a recent history of jaundice it is advisable to carry out tests of liver function and to look for Australia antigen, the prevalence of which is much higher overseas than in Britain.

Clearly any such "check-up" is best carried out where the facilities exist; about 1,500 patients are seen on this account each year at the Hospital for Tropical Diseases, London.