Acute schistosomiasis (Katayama fever) among British air crew

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Even brief visits abroad may bring travellers into contact with pathogens against which they have no immunity. Though returning home apparently well, the travellers may be incubating an exotic illness with which they then present to their local doctor. We report a recent outbreak of acute *Schistosoma mansoni* infection that occurred in this way.

Case reports

During an off duty weekend in Ghana 14 British men and women who were members of an air crew picnicked on an island in the estuary of the Volta. Ten of them swam in the fresh water, of whom two recalled itching afterwards. Eight became ill two to five weeks later with fever, rigors, and malaise and various other symptoms including cough, weight loss, myalgia, arthralgia, and urticaria. The remaining two people did not have any symptoms, though one had had a swimmers' itch a few minutes after swimming; these were the only two crew members who had previously swum at this site. Clinical findings were unremarkable, and most of the crew had begun to improve spontaneously by the time they were examined, which was one to two weeks after the onset of symptoms. The table gives the laboratory findings in all 10 swimmers.

Laboratory findings in 10 people who swam in water in Ghana

Age (years)	Eosinophil count ($\times 10^9$/l)	Stool findings	Findings in rectal snips	ELISA value*
		Men		
41	444	Negative	*S mansoni*	3
41†	557			6
		Women		
39		*S mansoni*		2
25†	1580			4
24	3780		*S mansoni*	5
26	3024	Negative	Negative	3
25	730	*S mansoni*	*S mansoni*	
25	476	*S mansoni*		4
27	996	Negative	Negative	5
24	1005	Negative	Negative	2

ELISA = Enzyme linked immunosorbent assay.
*Expressed as multiple of upper limit of normal.
†Had previously swum at the site.

Ova of *S mansoni* were found in the stools or snips of rectal mucosa in five cases; schistosomiasis was diagnosed in the others after eosinophilia was detected and serological examination yielded positive results. All patients were initially screened serologically with a commercially available complement fixation test, which gave negative results in all cases. Serological testing was repeated two to three weeks later at the Hospital for Tropical Diseases with an enzyme linked immunosorbent assay (ELISA). The table gives the results of this assay as multiples of the upper limit of normal, and the positive predictive value for each multiple is known.[1]

The duration and severity of symptoms in the eight patients with Katayama fever varied. Most were grounded and were ill for three to four weeks. All 10 patients were treated with praziquantel 40 mg/kg body weight orally, and several reported an exacerbation of their symptoms over the next 36 hours. A second dose was given to seven patients one month later, which did not have any adverse effects. Subsequently all the patients recovered fully.

Comment

Acute schistosomiasis may be severe, debilitating, and even fatal and usually arises three to six weeks after primary infection by the cercarias of *S mansoni*, *S japonicum*, or, occasionally, *S haematobium*.[2] During the illness the parasites mature, mate, migrate to the portal venous system, and begin to lay eggs and the patient becomes positive for schistosomal antibodies. Early diagnosis is difficult because at that stage so few eggs have been laid that they cannot be detected in clinical specimens. The ELISA for antibodies to schistosomes has a high sensitivity and specificity[2] and is a valuable screening test provided sufficient time for seroconversion has elapsed.

The treatment of Katayama fever may result in clinical deterioration due to hypersensitivity or a condition similar to serum sickness. For this reason some authors suggest that patients should also be given corticosteroids.[3] The parasite is highly infectious and may cause extensive morbidity in those who are not immune to it.[4,5] Schistosomiasis should be suspected in any patient who has been in contact with fresh water in an endemic area.

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Restless leg syndrome in pregnancy

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The restless leg syndrome is an unpleasant creeping sensation deep in the lower legs causing an irresistible desire to move the leg and relieve the sensation.[1] Though there are no proved aetiological factors,[2] the syndrome seems to be strongly associated with pregnancy, iron deficiency anaemia, uraemia, and rheumatoid arthritis.[3] We assessed the prevalence and outcome of the syndrome in pregnancy.

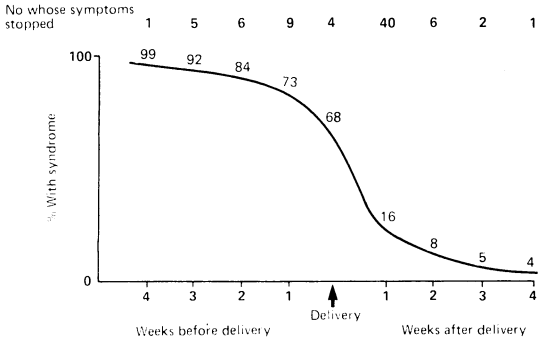
Patients, methods, and results

Five hundred women with singleton pregnancies at 32-34 weeks' gestation consecutively attending this hospital's antenatal clinics were invited to complete a questionnaire and were interviewed by JDSG. Four weeks after delivery those women who had had the restless leg syndrome were contacted by telephone or post and asked whether their symptoms had improved or cleared.

Ninety seven women were assessed as having the restless leg syndrome. In 16 the symptoms had predated their pregnancy, and five of these reported that their symptoms became worse in the third trimester but after delivery returned to the same as before pregnancy. We were unable to contact four women. In women with more than one child 30% of those patients

with the syndrome (13/43) had had similar symptoms in their previous pregnancy.

Symptoms were considered mild if they had lasted from a few seconds to 15 minutes and occurred once a week for at least four weeks (44 of the 97 women with the syndrome); moderate if they lasted 15-30 minutes and occurred up to three times a week with occasional disturbance of sleep (46); and severe if they lasted more than 30 minutes and occurred at least three times a week with frequent disturbance of sleep (seven). In 56 patients the symptoms were exacerbated by a tiring day and in 14 by a change in the ambient temperature. Care was taken to exclude patients who were just tired or complained of cramps. Patients with and without the syndrome were similar in respect of distributions of age, parity, social class, smoking habit, presence or absence of varicose veins and rheumatoid arthritis, haemoglobin concentration (<105 g/l), and iron folate supplementation.



Reduction in number of women with restless leg syndrome before and after delivery who were followed up (n=77)

The figure shows the reduction in the number of patients with the syndrome from four weeks before delivery to four weeks after. In the four weeks after delivery the symptoms stopped in all but three women. Half of the patients noticed some improvement in their symptoms in the four weeks before delivery, often related to giving up work or compulsory bed rest. Twenty six patients with the syndrome mentioned their symptoms to their general practitioner; none was given the correct explanation.

Comment

The prevalence of the restless leg syndrome in any group depends on the patient selected for study and whether symptoms are deliberately sought or spontaneously volunteered. Though our inquiry found that 97 of 500 pregnant women (19%) had the syndrome, only seven had severe symptoms. Many of those with mild or moderate symptoms were identified only after careful questioning.

By 10 days after delivery only six women who had developed the syndrome during pregnancy still complained of symptoms. Though the aetiology of the condition is poorly understood, the reduction in the prevalence of symptoms from four weeks before delivery to the period soon after may have coincided with a voluntary or enforced period of reduced activity; a tiring day was the most common factor associated with the development of symptoms. Gorman *et al* also suggested that symptoms occur particularly in patients suffering from anxiety and tension and in normal people during periods of stress.[4]

We were surprised that though 27% of the patients had told their general practitioner about their symptoms, none had been provided with a satisfactory explanation. The syndrome, especially in pregnancy, is not well known by doctors. Suggesting a reduction in activity to reduce symptoms and reassuring patients that they have a common condition that will almost certainly disappear after delivery should help to allay their worries.

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Heterosexual transmission of HIV by haemophiliacs

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Important information on the epidemiology of heterosexual transmission of human immunodeficiency virus (HIV) in the West is lacking, which limits the prediction of future trends.[1,2] Haemophiliacs may be regarded as representative of the general population with respect to sexual behaviour and additional risk factors. Haemophiliacs who are positive for HIV antibody and their regular heterosexual partners may therefore serve as a model for transmission of HIV from men to women, from which information can be obtained about the risk of discrete sexual contacts, different sexual practices, the protective effect of barrier methods of contraception, and the chance of transmission.

We report a three year follow up study of 13 haemophiliacs positive for HIV antibody and their spouses.

Patients, methods, and results

In June 1984, 35 patients with haemophilia and their spouses entered a study. We interviewed patients and their partners every three months. Blood samples obtained every three months were screened for cell counts; liver enzyme activity; antibodies to cytomegalovirus, Epstein-Barr virus, and HIV (confirmed by immunoblotting); and HIV antigen. Every six months subsets of T lymphocytes were counted and lymphocyte stimulation tests performed. Thirteen haemophiliacs were positive for HIV antibody, and the date when they had become positive was established retrospectively for stored serum. In each patient the disease was staged according to the Walter Reed classification (though lymphocyte stimulation tests were used instead of delayed hypersensitivity skin tests): stage I=no prolonged generalised lymphadenopathy, >400 OKT4+ cells; II=lymphadenopathy, >400 OKT4+ cells; III=lymphadenopathy present or absent, <400 OKT4+ cells; IV=depressed results of lymphocyte stimulation tests; V=opportunistic infections.

None of the patients' partners were positive for HIV antibody at any time during follow up. Patients and partners denied having had homosexual contacts or sexually transmitted diseases or other genitourinary disorders and did not take intravenous drugs.

All couples practised vaginal intercourse. Four partners (cases 4, 5, 12, 13) had orogenital contact; two couples (cases 5, 10) had vaginal intercourse during menstruation; none practised anal intercourse. One patient (case 12) had used condoms before becoming