



TRAVEL MEDICINE BRIEFCASE

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TRAVELLERS! - BEWARE OF THE FELLOW TRAVELLER—GIARDIA LAMBILIA

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Introduction

Giardia lamblia, the aetiological agent of giardiasis, is a fascinating organism with a long and venerable history. This highly communicable and the most common enteric protozoan parasite, occurring from the tropics to Arctic prevalence Greenland with a global prevalence of up to 30%, is now ranked as one of the ten major parasites of humans, resulting in significant morbidity. The tremendous increase in international travel, and rapid and convenient means of transportation have facilitated the spread of *Giardia lamblia* from one destination to another. Whereas the travellers need passport, visa and tickets, *Giardia lamblia* does not.

Transmission and risk determinants

Although the parasite is ubiquitous, most of the infections occur in tropical settings and developing countries, where the standards of hygiene are less than ideal. One acquires giardial infection by ingesting viable cysts through contaminated water or food. The environmental pollution by unhealthy living conditions, overcrowding, unsafe drinking water, unsafe food and unsafe sewage disposal is the mainstay in the continuity of the endemicity of the disease. The host factors include mode of travel (air, road, caravanning, camping, backpackers), younger age (4-5 times more common in children), dietary mistakes (consumption of raw vegetables, salads, reconstituted juices and traditional drinks in tropical settings), an impaired gastric acid barrier (those with previous gastro-intestinal surgery, those on antacids, H₂ receptor antagonists and proton pump inhibitors) and immune deficiency (congenital, acquired, immunosuppressive therapy). In travellers to Nepal falling prey to giardiasis, consumption of cannabis has been found to play an important role. It induces hypochlorhydria, possibly lowers the infective dose for *Giardia* and produces a more voluminous diarrhoea [1].

Magnitude of the problem

Giardia lamblia is now considered to be the most frequent parasitic cause of travellers' diarrhoea (TD) in travellers originating from United States, United Kingdom, Italy, Germany, Austria, Netherlands, Switzerland, Sweden and Japan. In previous studies, it was held responsible for up to

5% cases of TD but now the figure has risen to 83%; as documented in the largest reported travel related outbreak of giardiasis occurring in residents of United Kingdom who became infected while staying in a resort hotel in Greece [2]. The resulting incapacitating diarrhoea can become a memorable component of a trip to destinations in developing countries by disturbing the tight schedule of a well organized tour, spoiling the pleasure and sometimes even the purpose of the trip.

Giardia lamblia is the main parasitic triggering factor of the "homing diarrhoea" which affects children of emigrants coming back from a trip to their country of origin and may become serious enough to cause death secondary to dehydration or septicaemia [3]. Infection with *Giardia lamblia* may add to the miseries of other infections. In a previously healthy Japanese traveller acquiring paratyphoid fever after a trip to India, the concomitant infection with *Giardia lamblia* was found to exacerbate the paratyphoid fever [4]. Similarly, in a study on returning travellers, cryptosporidiosis was found to be seven times more frequent in patients with *Giardia lamblia* than in others [5].

Is a giardiasis-free trip possible?

Travel related imported cases of giardiasis introduce into the community the disease about which the residents may have little awareness and in most cases, the possibility of which did not exist in the minds of the local family physicians. It becomes, therefore, imperative that necessary measures should be taken to block importation of *Giardia lamblia*. There is no chemoprophylaxis or immunoprophylaxis available. The only safe and reliable tool in the hands of the travellers is behavioural modification. Pre-travel counselling of the travellers especially of those to area of endemicity is highly rewarding exercise. Routine and rigorous hand washing (most preferably with a liquid soap) before food intake, after changing a soiled diaper; and before feeding a child should be the priorities of personal hygiene.

Water is the most important vehicle of transmission. Hikers, campers and back packers who ingest untreated surface water, inlanders who drink untreated ground water and

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COURSE REPORT TRAVEL MEDICINE IN SOUTH AFRICA

Two College Councillors, Associate Professors Peter Leggat and Dave Durrheim, had the pleasure of participating in the second academic Travel Medicine training course held in South Africa. The course was conducted as a joint venture between three universities, Stellenbosch University, University of the Witwatersrand and James Cook University, and was held in the picturesque university town of Stellenbosch. This historical town in the famous South African winelands, near Cape Town, provided an ideal setting for the 100 delegates from southern Africa who spent three days honing their skills in this emerging health discipline.

This course built on the successful inaugural travel medicine course organised by Professor Mary Ross of the Department of Community Health during 2000. The course will be conducted in the form of two contact weekends and by distance learning. This remains the only course accredited by the South African Department of Health for training yellow

fever vaccination centres as a prerequisite for registration. The target group thus is health professionals who provide health care to travellers and expatriates both in Africa and internationally. Medical practitioners, nurses and paramedics had a unique opportunity to update and share their knowledge and experiences, meet other travel medicine practitioners and earn Continuing Professional Development points.

The South African Society of Travel Medicine (SASTM) is a full partner in presenting and organising this course, the only one of its kind in Africa. The second edition of the Primer of Travel Medicine (ACTM Publications) has proven a valuable basic text for the course.

Assoc Prof Dave Dürrheim, FACTM, FFTM
Assoc Prof Peter A. Leggat, FACTM, FFTM, Hon. MNZSTM
On behalf of the Convenors



Giardia lamblia (CONT...)

(Continued from page 1)

tourists in tropical settings who consume tap water are most prone to giardial infection. They should be motivated to use potable water (preferably bottled) or at least boiled. In situations where boiling is not possible (eg in hikers and campers), a solution of saturated crystalline iodine may work, although other products, such as tetraglycine hydrop-iodide, may be safer and easier to use. Consumption of traditional drinks in tropical settings (lassi, baadami, zaaf-rani, thaadal), improperly stored and inadequately heated edibles, cut pieces of fruits and salads (exposed to contaminated surroundings) are potential source of giardial infection. The safest food is that which is freshly cooked and served hot. In warm climates, "colourful" cold drinks are very tempting but safety lies with hot tea or coffee.

Giardiasis is preventable in travellers, if they are determined not to acquire it.

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REACHING A CONSENSUS!

The Faculty of Travel Medicine is moving towards the development of consensus statements for the Faculty. Comment is also sought from members on the Faculty's draft consensus statement for the travel industry, also reproduced below.

Assoc. Prof. Peter A. Leggat, FACTM, FFTM, Hon MNZSTM
CHAIR, FACULTY OF TRAVEL MEDICINE

Proposed body of Consensus Statement for the Faculty for the Travel Industry (for comment)

With an aim of optimising traveller's health, the Faculty of Travel Medicine of The Australasian College of Tropical Medicine recommends that the travel industry advise prospective travellers of the following issues.

Many travel destinations have associated health risks. For some destinations vaccinations are required for entry and for many medical professionals would recommend specific vaccinations. Some destinations pose a risk of malaria and/or other mosquito-borne illnesses and many pose food and water borne disease risks. Risks associated with accidents and trauma also exist as well as risks associated with casual sex and drug use. Travel also effects many ongoing medical problems as well as pregnancy.

Travellers are strongly urged to seek the advice of a travel health professional or medical practitioner as soon as possible after planning travel abroad.

The Travel Industry should also recommend strongly that travellers take out adequate travel insurance which includes a medical component.

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Please forward comments to actm@tropmed.org by 30 April 2001.

**APPLICATION FORMS NOW AVAILABLE ON
THE ACTM WEBSITE**

<http://www.tropmed.org/travel/>

**FOR ADMISSION TO MEMBERSHIP OF THE
FACULTY OF TRAVEL MEDICINE**

OF THE

**AUSTRALASIAN COLLEGE OF TROPICAL
MEDICINE**

An example of a consensus statement on the profession has been reprinted below with the approval of the International Society of Travel Medicine.

(ISTM Consensus statement)

North American Charter for Travel Health A Consensus Statement on Providing Travel Health Advice - October 22, 1996 -

With a goal of ensuring that North Americans who travel widely travel wisely, representatives from the U.S. and Canadian travel industry and medical professions, by consensus, have agreed that there is a need for greater emphasis on health advice for travelers and that providing it should be part of the travel industry service.

By consensus also, health issues were identified, information priorities were set, and the following guidelines for providing travel health advice were agreed to:

1. Required Immunizations

Travel professionals should advise the traveler of required immunizations (those required for entry into a country according to international regulations).

Because there may be destination-specific health risks, travel professionals should advise their clients to seek expert advice from a healthcare provider concerning recommended immunizations (e.g., hepatitis A, typhoid, tetanus, polio, etc.).

2. Malaria

Travel professionals should advise clients to consult with their healthcare provider or a travel medicine expert to obtain health advice about foreign travel.

3. Healthcare Provider

Travel professionals should advise clients to consult with their healthcare provider or a travel medicine expert to obtain health advice about foreign travel.

4. Additional Issues Which May Need To Be Addressed

With healthcare professionals: food and beverage precautions, personal protection against insect bites, measures to avoid injuries and accidents, and caution concerning risky behavior such as casual sex, drug use, etc.

With travel professionals: travel insurance.

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NEW ZEALAND SOCIETY OF TRAVEL MEDICINE NEWS



The big news for our group is that the Australasian College of Tropical Medicine (ACTM) which has a Faculty of Travel Medicine within it has kindly offered to help produce our newsletters. In addition we will receive some of the College's publications. This will probably provide you with more frequent and informative information. We may also be able to have a web site linked to the College's home page. We want to make The New Zealand Society of Travel Medicine (NZSTM) more visible and useful. If you have any suggestions or comments please let us know.

NZSTM President: Dr Joan Ingram: cjari@iconz.co.nz

NZSTM Secretary: Dr Larry Skiba: larrys@chch.planet.org.nz.

Ebola Haemorrhagic fever in Uganda.

As of 16 January, the Ugandan Ministry of Health has reported over 400 cases and 169 deaths. The majority are in the Gulu district with a few also in Masindi district. WHO recommends no special restrictions on travel or trade to or from Uganda.

Cholera in South Africa and Somalia

As of 16 January an outbreak of cholera in KwaZulu/Natal which started in mid-August has resulted in 19500 reported cases and 66 deaths. The outbreak is primarily affecting the Empangeni area. No special restrictions on travel to and from KwaZulu/Natal are warranted.

A few hundred cases have been reported from Somalia.

Yellow Fever in Guinea

Over 500 cases including 190 deaths have been reported in 15 districts in northwestern Guinea. Guinea is currently conducting a yellow fever vaccination campaign.

Polio in Cape Verde and Dominican Republic

Since August, 33 cases of acute flaccid paralysis have been reported from Cape Verde. Cape Verde is an archipelago of 10 islands west of Senegal and Mauritania. In response to the outbreak a mass vaccination campaign has been mounted. Travellers to West Africa should be protected against polio.

Since July 12, a total of 3 laboratory-confirmed cases due to vaccine-derived poliovirus type 1 have been identified and an additional 16 persons with acute flaccid paralysis (AFP) are now under investigation in the Dominican Republic. In Haiti, a single laboratory-confirmed case due to vaccine-derived type 1 poliovirus has been reported. Despite intensive case-finding activities, no other cases have been found to date.

The virus detected is unusual because it is derived from OPV, has 97 percent genetic similarity to the parental Oral Polio Vaccine (OPV) strain (normally OPV derived viruses are greater than 99.5 percent), and appears to

have assumed the characteristics of wild poliovirus type 1. The difference in nucleotide sequence suggests the virus has been either replicating for a prolonged period in an immunodeficient individual, or circulating for as long as two years in an area where vaccination coverage is very low, resulting in ongoing genetic changes in the original Sabin virus that gave it the properties of wild poliovirus.

Prolonged circulation of OPV-derived polioviruses in areas with very low OPV coverage has been documented in only one other setting--type 2 OPV-derived virus circulated in Egypt for an estimated 10 years (1983-1993) and was associated with more than 30 reported cases. In this instance, vaccination coverage was very low in the affected areas, and circulation of a vaccine-derived poliovirus was terminated rapidly once OPV vaccination coverage increased. The key factor for control of circulating OPV-derived viruses is the same as that required to control wild poliovirus circulation: achieving and maintaining high vaccination coverage. Travelers to the Dominican Republic and Haiti who are not adequately immunized must be considered at risk of acquiring poliomyelitis, and should make certain they are fully immunized against polio.

Certificates of Merit

Marc Shaw and Peter Leggat were presented with the Certificate of Merit at the recent MASTA conference in Auckland (November 2000) for the major contributions they have made to the area of Travel Medicine.

Journal Watch

Atovaquone-proguanil versus chloroquine-proguanil for malaria prophylaxis in non-immune travellers: a randomised, double-blind study. Hogg B et al *Lancet* 2000;356:1888-1894.

This is a double-blind trial with 1083 travellers randomised to either atovaquone-proguanil (AP) or chloroquine-proguanil (CP). The average duration of travel was about 2.5 weeks and 642 (63%) people travelled to Africa. Seven days after travel, at least one adverse event was reported by 311(61%) of 511 participants who received AP and 329 (64%) of 511 who received CP. Those receiving AP had a lower frequency of treatment related GI adverse events (12% vs. 20%, $p=0.001$) and of treatment related adverse events of moderate (interfered with daily activities) or severe (sought medical advice) intensity (7% vs. 11%, $p=0.05$). There was no difference in the rate of neuropsychiatric events (10% in both groups). Treatment related adverse events caused prophylaxis to be discontinued in one (0.2%) AP user and ten CP users (2%, $p=0.015$).

This was not powered to be an efficacy study but no cases of malaria were diagnosed among AP users but three participants taking CP had confirmed *Plasmodium falciparum* malaria.

Please forward articles for the "Travel Medicine Briefcase" to the Editor, TMB, c/- ACTM Secretariat.