CENTRE FOR DISEASE CONTROL
NORTHERN TERRITORY

HTLV-I - The Facts

What is HTLV-I?

HTLV-I is human T-cell lymphotropic virus type I. It was the first human retrovirus to be discovered. HTLV-I is a distant relative of the human immunodeficiency viruses (HIV) which cause acquired immunodeficiency syndrome (AIDS). HTLV-I does not cause AIDS.

Transmission

Like other retroviruses, HTLV-I is a blood-borne virus. It can be transmitted from mother to child (primarily through breast feeding), by blood transfusion, sexual intercourse and by sharing contaminated needles. 20-50% of the babies born to infected mothers will become carriers. Intrauterine or perinatal transmission of HTLV-I accounts for 5% of infections. Sexual transmission appears to be more efficient from males to females than from females to males. HTLV-I has been isolated in semen. The virus cannot be transmitted through social contact with infected people such as hand shaking, hugging, kissing or drinking from the same glass.

Prevalence

HTLV-I is endemic in many countries, principally Japan, the Caribbean and central Africa. It is also found in Iran, Iraq, southern India, China, the Seychelles, Papua New Guinea, the Solomon Islands and Australia.

In Australia, the virus occurs in many Aboriginal populations, having been found as far apart as the Kimberley and Cape York, but its prevalence varies markedly. In Central Australia the prevalence of HTLV-I is estimated to be up to 14%, compared to 4.7% in the Northern Territory cattle country, 0.5% in Darwin and close to zero in East Arnhem Land. In non-Aboriginal Australians the virus still appears to be extremely uncommon.

Diagnosis

Blood specimens are initially screened for the presence of antibodies to HTLV-I. More specific confirmatory tests are also performed. The presence of antibodies to HTLV-I indicates that a person is infected with the virus. Infection is lifelong.

What diseases does HTLV-I cause?

Two diseases have been definitely associated with HTLV-I:

- adult T-cell leukaemia/lymphoma (ATLL).
- HTLV-I associated myelopathy/ tropical spastic paraparesis (HAM/ TSP).

Only a very small proportion of HTLV-I carriers will actually develop disease. ATLL has been estimated to occur in up to 5% of persons infected with HTLV-I and usually presents later on in life, with the peak incidence in the 60-69 year age group. HAM/TSP develops in 0.25% - 3% of HTLV-I infected persons.

Other disorders are less clearly associated with HTLV-I; they include: opportunistic lung diseases, chronic lung diseases, certain cancers, eye

inflammation, infective dermatitis, crusted (Norwegian) scabies and a chronic low-grade immunosuppression.

Treatment

There is no treatment for chronic HTLV-I infection. Treatment of ATLL with conventional combination chemotherapy has generally proved disappointing. No specific treatment is known for HAM/TSP.

Prevention of infection

Transmission by breast milk can be prevented by bottle feeding infants of infected mothers. Persons infected with HTLV-I should refrain from donating blood, semen, body organs, or other tissues. In January 1993, the Australian Red Cross instituted universal screening of all blood donations for HTLV-I.

An HTLV-I infected person should be advised to use condoms to help prevent sexual transmission to a negative partner. Male-infected, female-non-infected couples desiring pregnancy should be made aware of the finite risk of sexual transmission of HTLV-I during attempts at pregnancy and of the small risk for vertical transmission from mother to infant unrelated to breast-feeding.

Health-care workers caring for HTLV-I infected persons need only be concerned about percutaneous exposure to HTLV-I contaminated blood. Universal precautions, recommended for contact with all patients, are adequate to guard against HTLV-I transmission to health-care workers. There has been no documented case of HTLV-I transmission occurring as a result of a needle-stick injury anywhere in the world. However, in view of a higher prevalence of HTLV-I in some inland Aboriginal populations, HTLV-I antibodies are tested at baseline when needle-stick incidents are reported.

To date there have been no studies of use of anti-retrovirals as post exposure prophylaxis to prevent transmission of HTLV-1 and there is currently no vaccine available.

If you require further information about HTLV-I, contact the Centre for Disease Control in your district.

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