The Acquired Immunedeficiency Syndrome and related diseases

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The first cases of the acquired immunedeficiency syndrome (AIDS) in Malawi were recognised during 1985. It is inevitable that the number of cases will increase in the near future. This centre pages article is designed primarily to assist in case recognition. Guidelines on appropriate infection control measures and conselling patients are also given.

Background information

It is now recognised that AIDS is the most severe manifestation of infection with the Human T-lympocytotropic virus type III (HTLV-III). This virus replicates in T-lymphocytes, which are critical to the maintainance of the body's immune defences. In most people infected with this virus these lympocytes appear to function normally despite the presence of the virus. In others however the virus disturbs lymphocyte function to a variable degree, hence HTLV-III infection can lead to a spectrum of diseases depending on the extent and duration of T-lympocyte malfunction as illustrated below in Fig. 1.

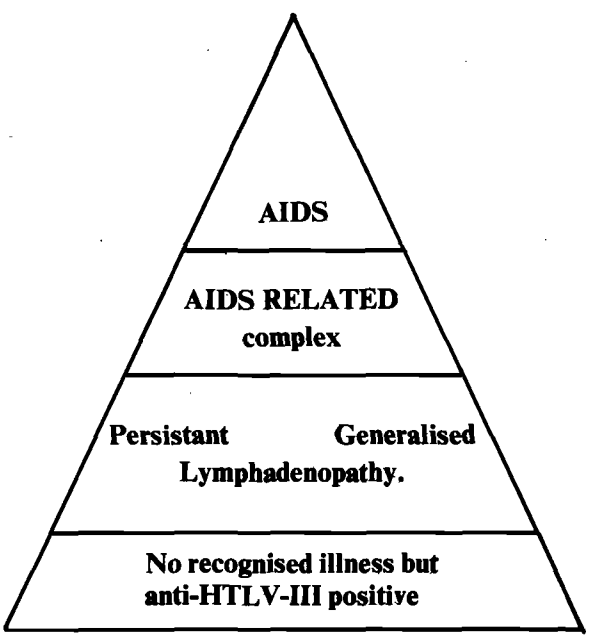

Fig. 1 Clinical Spectrum of AIDS

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Table 1

Infections and malignancies commonly seen in AIDS.

Protozoa	Pneumocystis carinii
	Entamoeba histolytica
	Toxoplasma gondii
	Cryptosporidium
Yeasts	Candida albicans
	Cryptococcus neoformans
Bacteria	Mycobacterium avium-intercelluare
	Mycobacterium tuberculosis
Viruses	Herpes simplex
	Herpes zoster
	Cytomegalovirus
	Genital warts
Malignancies	
	Kaposi's scarcoma
	B cell lymphomas

AIDS represents the most extreem case in which T-lymphocyte function is severely deranged, so that the patient is rendered susceptable to a range of infections and malignancies normally held at bay by the cell mediated immune defences. Some of these infections and malignancies are very rare in the normal host and their presence is of great assistance in case recognition (see table).

When lymphocyte function is relatively less deranged patients may present with features of the AIDS-related complex (ARC) or they may remain well but have persistant lymphadenopathy. Some patients appear to have a brief self limiting illness with fever and lymphadenopathy clinically resembling infectious mononucelosis.

In the majority (about 90%) the infection is subclinical, such cases are only recognised by the detection of antibodies to HTLV-III in their serum.

Patients in all these groups may be infectious, there seems to be no association between the clinical manifestations of disease and infectivity. This hierarchy is not stable, patients may downgrade from good health to AIDS years after initial infection (an incubation period of about

two and a half years is average). Alternatively they may have features of the ARC and subsequently improve. Recovery from full blown AIDS however is virtually unknown; the disease being invariably fatal with a median duration of approximately eight months from diagnosis. In the U.S.A. it is estimated that there is approximately one case of AIDS for every 100 cases of subclinical infection.

Clinical Presentation

1) **AIDS related complex.** (ARC)

This is suggested by the finding of two or more of the following features:

- Loss of 10% or more of body weight.
- Fever of unknown origin for at least two months.
- Diarrhoea for at least two months with no pathogen isolated.
- Generalised lymphadenopathy consisting of palpable lymphnodes larger than 1 cm at any extra-inguinal site for more than three months.

In the tropics a variety of diseases alone or in combination can lead to similar signs and symptoms. Treatable diseases such as T.B., syhilis, lymphoma, trypanosomiasis or strongyloidiasis must be considered and excluded.

2) **AIDS**

Many patients with AIDS have a prodromal illness with features of the ARC for several weeks or months prior to developing AIDS. Such a history is helpful in reaching the diagnosis. It is very common for AIDS patients to have been treated for "Malaria" or "Typhoid" on several occasions with a poor response, often complicated by the development of oral candidiasis while taking antibiotics.

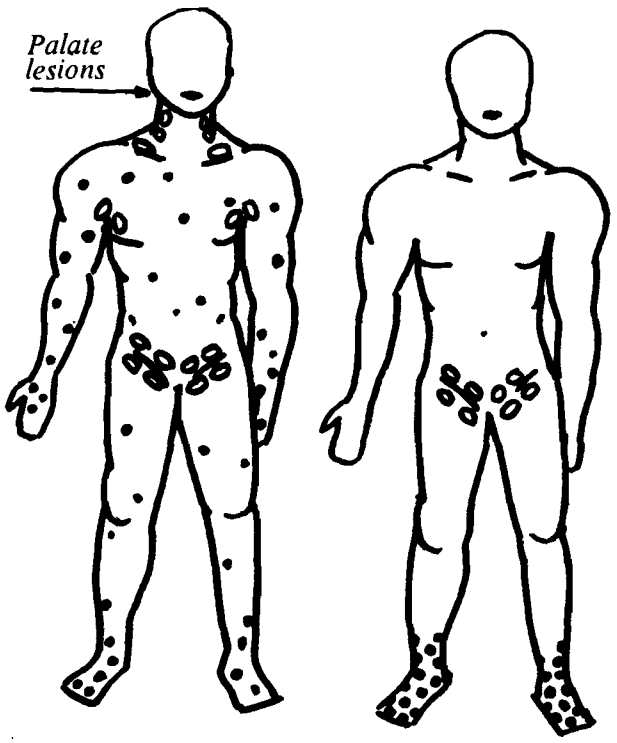
In view of the major breach of immune defences AIDS patients are susceptable to a wide range of infections and therefore very variable clinical presentation. The initial signs and symptoms can be found in virtually any system and as such are usually not very specspecific. The only syndrome seen in Malawi which is almost exclusively associated with AIDS is atypical Kaposi's Sarcoma (A.K.S.). This has been found in almost 50% of the cases so far seen in Malawi.

Comparison of atypical and typical Kaposi's scarcoma. (K.S.)

	Atypical K. S.	Typical K.S.
Age of onset	younger	older
Progress	rapid.	indolent
Visceral disemination	often	rare
Response to treatment	poor	good

Distribution of skin leisions and lymphadenopathy

Atypical K.S. Typical K.S.



Lymphnode form with no skin leisons common. Generalised symetrical rubbery glands characteristic.

Lymphnode form with no skin leisons only seen in children.

In the absence of obvious AKS the following require close inspection when AIDS is suspected: (likely opportunistic infection or malignancy)

General – Evidence of recent weight loss. Fever often present.

Skin –
- Non specific often itchy maculo-papular rashes.
- Herpe Zoster rash.
- Perianal and perioral ulceration. (Candida, herpes simplex.)

Mouth –
- Candidasis often very severe and resistant to treatment.
- Patchy erythema of the soft palate and fauces
- Tonsils enlarged.

Fundi – Exudates often extending into vitreous with heamorrhages. (Cytomegalovirus retinitis.)

Lymph nodes – Some lymphadenopathy common, often symetrical, non tender and most frequently present in the neck and axillae. (T.B., Toxoplasma, AKS, lymphoma.)

Chest – Bilateral crackles (T.B., Pneumocystic carinii)

Abdomen – Hepato-spleenomegaly (T.B., lymphoma)

Neurological – Occasionally mood disturbance, dementia or focal neurological signs. (T.B., Toxoplasma, cryptococcus, direct invasion by HTLV-III)

The diagnosis of AIDS (in the absence of AKS) as opposed to ARC depends on the positive diagnosis of an opportunistic infection. This presents difficulties in Malawi as the facilities to confirm the presence of some of these infections are not readily available; hence patients may be classified as ARC when they really already have full blown AIDS. This will become apparent as the patient's progress is followed. Alternatively a patient with symptoms suggestive of ARC may be found to have Tuberculosis and this is then assumed to be the sole underlying cause of the patient's condition; evidence of ARC only becoming apparent when the patient fails to respond well to antituberculous treatment or they develop persistant oral candidiasis.

Epidemiology

Characteristics of group at greatest risk in Malawi.

Sex ratio: approximately equal
Age: 20-40
Education level: above average, most patients speak good English.
Foreign travel: greater than average
Income: greater than average

Mode of Transmission

Definite.
- Sexual intercourse – this is the major route of transmission. Multiple partners.
- Blood Transfusion
- Contaminated needles and syringes
- Vertical transmission from mother to child

Possible but unproven.
- Scarification (likely)
- Insect bites (unlikely)

Investigations

Laboratory investigations helpful in establishing AIDS/ARC in patients with suggestive clinical picture (finding suggestive of AIDS/ARC).

Full Blood Count and Differential	: lymphopenia
Mantoux test	negative
Chest X-ray	bilateral lymphadenopathy
	: bilateral infiltrates
Lymph Node Biopsy:	reactive changes
	: Kaposi's Scarcoma
Anti HTLV-III antibodies	: positive

Other investigations such as T-lymphocyte subset ratios and lymphocyte culture for HTLV-III are helpful but are not available. Other investigations may be required depending on clinical findings to exclude other diseases and confirm opportunistic infection.

Treatment

There is no specific treatment for AIDS at present. Infections detected in such patients, eg oral candidiasis or T.B., should be treated in the usual way. In severe pneumonia with cyanosis and bilateral infiltrates a trial of high dose Cotrimoxazole (one tablet per 4 Kg body weight/day in four divided doses) is indicated as this may be due to pneumocystis carinii. Facilities to confirm this are not available at present.

Infection control measures

HTLV-III is not communicated easily. It appears to be less easily transmitted than Hepatitis B, a disease which can be spread by similar routes and also carries an appreciable long term risk of a fatal outcome. It is therefore reasonable to adopt similar precautions for both diseases. The following measures are recommended when dealing with any patient who is known or suspected to be HTLV-III positive. The measures recommended are little more than should be adopted when dealing with any potentially infectious body fluid. It must be remembered however that most individuals who are HTLV-III positive will be unrecognised carriers.

Measures to reduce risk to medical staff

- Contact with blood and secretions should be avoided.
- Wear gloves and gown when mopping up any spilt blood, haematemesis or melaena, or when dressing any cutaneous ulcers. Floors or mattresses which have been contaminated by blood should be washed with household bleach diluted 1:10 with water.
- Dispose of contaminated dressings in plastic bags which should then be tied to prevent spillage.
- Always take blood with care. Wear cheap disposable gloves when venesecting a known case.
- Dispose of any needles carefully so that cleaning staff will not prick themselves. If to be returned for autoclaving, boil on ward

first in a separate kidney dish.
- Do not attempt mouth to mouth resucitation.
- Ensure that colleagues eg theatre staff or laboratory staff are aware of the potential risk. Label all blood samples clearly as high risk specimens thus: **HTLV-III risk**.
- Ensure that any minor injuries on your hands are dressed so that contact is avoided with potentially infected body fluid.
- If blood is spilt on skin wash throughly with soap and water. If a needle stick injury is sustained encourage it to bleed then wash.

Measures to reduce risk to other patients
- A single room is only required if patients excreting infectious material, eg. has extensive open wounds, haemetemesis etc. Patients may be placed in a single room as a reminder to staff but this should not displace patients with much more contagious diseases such cholera.
- Ensure that any needles or syringes used with HTLV-III positive patients are adequately sterilised preferably by autoclave.

Advice to be given to outpatients so that they may minimise the risk they pose to others

It is a difficult task to phrase such advice both tactfully and clearly. More educated patients will often already have learnt something about AIDS, often grossly inaccurate and alarmist, from the popular press. It is often sensible to begin by discovering how much the patient knows so that any misconceptions can be rectified. It may be best to avoid the word AIDS and explain that their blood contains a virus which suppresses their ability to combat infection.

Patients should know that their blood is infectious and that intimate contact such as sexual intercourse is a major route of infection. It is almost inevitable that the patients spouse has already been exposed to the infection for several months if not years prior to the patient presenting and little will be gained and potentially a great deal of unnecessary misery caused by any recommendation to alter a couples sexual practises at this stage.

Recommendations that may be made:
(Be selective, many of these will be inappropriate for sick patients)
- No new sexual partners
- If the patient cannot tolerate this restriction the use of a condom should be encouraged, as it probably reduces but does not exclude, the risk of transmission.
- The patient must never give blood.
- The patient should make sure they tell unfamiliar medical staff their diagnosis.
- Care should be taken with razors and toothbrushes which might become contaminated with blood to ensure that they are not shared by other members of the household.
- If the patient insists on having traditional scarification treatment he should supply a razor blade for the therapist to use and then make sure it is returned.

Medical staff found to be carriers should continue working. In order for them to transmit the infection whilst performing clinical duties, they would need to bleed, and for some of their blood to enter the patient's body. e.g. through a surgical incision, or via a mucous membrane. This unlikely route of transmission has never been recorded. Nevertheless they should probably avoid regularly conducting surgical or dental procedures, although they can quite safely take blood, dress wounds etc. There is no indication for the patient who is an asymptomatic HTLV-III carrier to be moved to a non-clinical post.

Confidentiality is all important if the patient's trust is to be gained. An employer should not be informed of the diagnosis without the patients consent. Discharge slips which an employer may ask to see should not carry the word AIDS; HTLV-III related disease should be written instead. Carriers whose job does not entail any unusual degree of physical intimacy should continue in such work. All health workers have an obligation to combat inappropriate stigmatisation of HTLV-III carriers.