The Other Side of AIDS

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The Acquired Immuno Deficiency Syndrome (AIDS) was first recognised in 1985. An intense research effort is in progress throughout the world to understand the cause, mode of spread and treatment for this fatal disease.

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Prevalence

The AIDS first appeared in 1979 and was brought to the notice of the medical community in 1981. The first report of AIDS came from the Centre for Disease Control in Atlanta, Georgia, in the United States. By July 1985, there were about 15,000 cases of AIDS worldwide. Of them, over 11,000 cases were in the US. According to a World Health Organisation (WHO) survey, the prevalence of AIDS cases per million population by March '85 in different European countries was - US (42), UK (3.1), Denmark (8.0), Switzerland (7.9), France (5.6), Belgium (8.2), Netherlands (3.6), Germany (2.6), Sweden (2.7), Norway (2.0) and Austria (1.7). The mortality from AIDS epidemic is illustrated by the fact that in the US, death from AIDS is more common than deaths from cancer, heart disease or road mishaps. In India, the first confirmed evidence of AIDS infection was detected in prostitutes of Tamil Nadu. Now, more and more cases are coming to notice. In India, about 167 cases have been reported till date.

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Cause of AIDS

From the outset, the causative agent for AIDS is thought to be a virus but the specific search for the AIDS agent has been complicated by several problems. Firstly, because of the derangement of the immune system in AIDS patients, potentially valuable serological techniques for identifying the infecting organisms may be ineffective (because of the patient's acquired inability to form anti-bodies). Secondly, AIDS patients have often had prior exposure to multiple infections by sexually transmitted agents, making it difficult to distinguish between the causative agent and the opportunists or passengers.

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A range of viruses like Hepatitis-B virus, Cytomegalo virus (CMV), Epstein-Barr virus (EBV) and Retro-viruses, Human T-cell Leukemia viruses (Types I and II) had been considered possible causative agents for AIDS. Recently, a third member of the family of human T-cell Leukemia viruses (HTLV Type III) has been discovered by Dr Robert Gallo of the US in May '84, and is thought to be the putative or causative agent of AIDS. The evidence for this is based on following: First, HTLV-III has been isolated from blood, semen and saliva of patients with AIDS. Second, antibodies to HTLV-III have been detected in a high percentage of high risk individuals and those suffering from AIDS. Third, HTLV-III is toxic in vitro to help T-cells (Low helper T-cell counts are characteristic of the immunological defect found in AIDS patients), and last, HTLV-III virus shows similarities to LAV virus (Lymphadenopathy virus) and AIDS related virus previously isolated and implicated in causation of AIDS.

The other co-factors that may be involved in the production of AIDS are: genetic susceptibility (of the many individuals who are exposed to the AIDS agent, only a few will develop the illness), immuno-suppression by semen (entry of semen into the blood stream through lacerated rectum after anal intercourse may act as an antigen, which produces auto-antibodies against sperms and somehow, against body's own T-lymphocytes, resulting in suppression of immunity), immuno-suppression by cytomegalo virus and use of recreational drugs like nitrite inhalants or 'poppers' (which are abused by homosexuals for their pleasant physical effect, heightened sexual sensitivity and relaxation of rectum facilitating anal intercourse).

Mechanism

There are two types of immunity in

the body: T-lymphocyte cell mediated and B-lymphocyte cell mediated. B-cells produce immunoglobulins and helper cells facilitate the production of immunoglobulins, while T-suppressor cells stop its production. In AIDS, the agent is supposed to infect a T-helper cell, thus impairing the immunity and making a person more prone to infections and their complications.

Who Can Get AIDS (High Risk Groups)

Anyone can develop AIDS if exposed to infected blood or blood products, however, the epidemic in the US has highlighted some individuals who are at a greater risk of acquiring the disease.

Homosexual or bisexual men: Men account for 90 to 95 per cent of AIDS cases and about two-thirds of them have been homosexuals or bisexuals. The risk of contracting AIDS in homosexuals is thought to be associated with exposure to semen or blood during anal intercourse and with multiple or anonymous casual partners.

Intravenous drug abuse: Among heterosexual men or women with AIDS in the US, about 60 per cent are reported to be users of intravenous (IV) drugs, especially heroin and cocaine. This results due to contaminated 'rent' needles in so called 'shooting galleries'. 'Booting' or the repeated withdrawal and injection of blood into the syringe may increase the risk of transmission of the AIDS agent.

Haemophiliacs: The AIDS is now the most important complication of treatment for haemophilia. By April '85, about 100 haemophiliacs have been AIDS victims (the average prevalence in the US and UK being 0.36 per cent and 0.11 per cent respectively). The high risk of AIDS in haemophiliacs is due to infusion of contaminated blood (because haemophiliacs genetically lack a clotting factor and need constant artificial supply of it through repeated blood transfusions).

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Transfusion patients who have received infected blood products: The patients undergoing surgery or those with haematological disorders (acute leukemia) or haemorrhagic shock, need whole blood or its fractions. They are at a greater risk of contracting AIDS.

Heterosexual partners of AIDS patients: The sexual relationships with a number of partners, especially prostitutes, constitutes a vulnerable group for contracting AIDS.

Infants of parents with AIDS: Reports of AIDS or a related syndrome in infants born to parents at risk from AIDS suggest that the virus is either passed from mother to child by the transplacental route or via the mother's milk at the time of breast feeding. In 1985, a baby in Sydney, Australia, became the world's first recorded victim to contract AIDS from his mother after being breast-fed.

Spread

On the basis of the risk groups which have been identified with AIDS, there is strong evidence to suggest that the AIDS virus is transmitted by sexual contact (both homosexual and heterosexual), parenteral transfer (in blood or blood products), transplacental and perinatal transfer from mother to child, saliva (AIDS virus has been isolated from saliva and thus it can transmit the agent through kissing, coughing or sneezing) and may be by mosquitoes and other voracious blood imbibers like bed bugs, lice and fleas. If the transmission of virus by insect bite is true, then the disease is going to attain high prevalence in India. The latent period of the disease is from 6 months to more than 6 years (the average incubation period being 28 months).

Common Symptoms

The AIDS is a frightening disease since it has dire consequences for its victims. Initially, the patient first suffers from an acute illness of short duration somewhat similar to glandular fever or infectious mononucleosis (repeated sore throats, lymph glands enlargement, etc.). He usually recovers from this and spends a fairly long time, even years in some cases, without any overt symptoms. At a later stage, the patient presents with unexpected weight loss of more than 10 pounds (4.5 kg) in two months, profound fatigue persisting for several weeks with no obvious cause, swollen glands usually bilaterally in cervical, axillary and inguinal regions, persistent fever or night sweats for several weeks, persistent shortness of breath and non-productive cough of several weeks duration, skin disease (new pink to purple blotches, flat or raised, like a bruise or a blood blister anywhere on the skin including the mouth or eyelids). A Number of other skin complaints like fungal infections, foliculitis, genital warts and eczema), thrush (oral and oesophaegal), diarrhoea, psychological symptoms (like lethargy, anxiety, phobia, depression and in late stages dementia), and many opportunistic viral, bacterial, protozoal and fungal infections. In several cases, there are deep sores around the mouth and anus, or a type of cancer known as Kaposi's sarcoma.

Thus, an AIDS patient may present to hospital as an acute admission to the following specialists - chest specialists (for chest infections), gastroenterologists (for severe diarrhoea), dermatologists (for skin lesions and Kaposi's sarcoma), neurologists and psychiatrists (for depression and dementia), and

general physicians (for fever, weight loss, sudden lymph glands).

Complications

The secondary infections (viral, bacterial, protozoan and fungal), autoimmune conditions (purpura, hemolytic anaemia) and malignant cancers (lymphomas, squamous cell carcinoma of oral cavity and anus) are the important complications and thus, causes of death. The AIDS patient may face social, domestic and occupational disruption.

Diagnosis

In February 1985, the US Government's Food and Drug Administration approved a commercial test for identifying blood that is contaminated with antibodies produced against the AIDS virus, called ELISA (Enzyme-linked Immuno-Sorbent Assay). Though it is the 'test of choice', it may give false positive (in viral infections) and negative (in early AIDS results). This test only indicates past infection but does not predict whether the individual is still infectious or will develop AIDS. Since the incubation period of the illness is long and the majority of infected individuals are asymptomatic, it further adds to the problem of early diagnosis. The test is very costly and is yet to be available at all the major diagnostic centres in India. It is only used to screen the 'high-risk' individuals supposed to have contracted AIDS.

Management of AIDS

The AIDS patients usually require intensive medical investigation and nursing care. In Britain, the cost of treating victims of AIDS and of controlling the spread f the disease is about £ 10 million to 20 million a year while in the USA treating an AIDS patient costs about $ 55,000.

The management of AIDS patient is divided into:

(a) Treatment of the underlying immuno deficiency syndrome: At present, there is no effective treatment for the underlying immune defect in AIDS. Many biological response modifiers have been utilized in an effort to restore a balance in the immune status like Interferon (alpha and gamma), Interleukin II, Thymic hormones (Thymosin, thymopoietin), mixed bacterial vaccine, monclonal antibodies, but only the interferons have so far shown any significant activity in AIDS.

(b) Anti HTLV-III agents: They inhibit the virus replication. The common anti-viral agents, which have been tried, are Ampligen, phosphonoformate, HPA-23, inosine pranobex, that shows the most promise at present is phosphonoformate. The other treatments like plasmapheresis, bone marrow transplantation, leukocyte transfusion have also been used with variable success.

(c) Treatment of complications: The treatment of opportunistic infections like Pheumocystis carnii pneumonia (with cotrimoxazole or pentamidine), toxoplasmosis (with sulphadiazine and pyrimethamine), amoebiasis and giardiasis (with metronidzole), cryptosporidiosis (with antifungal agents) and Kaposi's sarcoma (with surgery, radiotherapy or drugs like bleomycin, vinblastin, etc) form the cornerstone of management in decreasing the mortality from AIDS .

(d) General management and precautions when dealing with AIDS patients: When dealing with AIDS patients, we must take following precautions: avoid contact of open skin lesions with material from AIDS patients, gloves and gowns should be worn when handling blood, blood-soiled items, body fluids, excretions and secretions, as well as surfaces, materials and objects, disposable syringes and needles should be used, the contaminated material should be placed in a disinfectant (such as 1:10 dilution of 5.25 percent sodium hypochloride) and a private room is indicated for patients who are too ill to use good hygiene.

The toothbrushes, razors, utensils, towels, gloves, toys should not be shared. Moreover, one should opt for a safer sex (with an established partner), no anal or oral-anal or oral-genital sex, 'no wet' kissing, and regular venereealogical screening and prompt treatment of infections.

National AIDS Control Strategy

The salient features of the strategy evolved by the Government with the ICMR help are:

- Establishment of monitoring and surveillance mechanism to cover the entire country by the end of the Seventh Plan, about 150 surveillance, research and training centres will be opened under the ICMR, medical colleges and district hospitals in high-risk areas.

- Identification of high-risk group (patients attending STD clinics, injectable drug abusers, professional blood donors, homosexual inmates of jails, prostitutes, call-girls, haemophiliacs, homosexuals and patients requiring repeated blood transfusions) and high-risk areas (vigilance and remand homes, red-light areas, jails, tourist spots like Goa, Bombay, Delhi, Varanasi, Trivandrum and Jammu and Kashmir), in consultation with state health authorities.

- Development of suitable mechanisms for periodical survey among high-risk groups through STD clinics and identified surveillance centres.

- Working out specific guidelines for management of detected cases and their follow-up (State health authorities should identify one or two physicians in each district, train them for management of cases).

- Specific guidelines for semen banks, blood banks, blood product manufacturers, professionals, drug de-addiction clinics, dialysis units, etc. (donation of blood from homosexuals, drug abuser or having a history of contact should be

avoided and if required, should be screened for AIDS).

- Training of personnel (professional and para-professionals in case of detection, management and follow-up of AIDS patients (At present, the ICMR is giving the training).

- Information, education and communication by involving all media and other health education channels (studies in the US have shown that high risk groups have been prepared to change their lifestyles and behaviour patterns voluntarily to avoid the more obvious risks of infections). The misunderstanding that shaking hands, sharing meals, coughing or sneezing, visiting a hair dresser, manicurist, optician, dentist are involved in AIDS transmission, is without any scientific basis. Till date, only semen and blood have been found to be infectious.

- Precautionary guidelines for laboratory staff and health professionals.

- Supporting research studies in the field to generate relevant information to control, prevention and management of AIDS cases.

- Regular health checkups of foreign students.

It is estimated that about 100 million people may die of AIDS by 2000 AD if it is not properly controlled. The aim of achievement of "Health for All by 2000 AD" will remain just a slogan.

Psychological Aspects of AIDS

Acquired Immuno Deficiency Syndrome (AIDS) is a virulent, newly described disease of unknown aetiology (probably viral), primarily affecting previously healthy highly promiscuous homosexual males, although now cases have been reported among women (especially prostitutes), drug abusers, haemophiliac patients needing repeated blood transfusions and Haitian immigrants. This relentless disease is characterised by the insidious onset of malaise, fatigue, weight loss, swollen glands and weakness. As the illness progresses, patients become overwhelmed by disseminated opportunistic (viral, bacterial, protozoal and fungal) infections and malignant cancers. The disorder has been reported in hundreds of people (in India, 167 cases have been reported till date) and the mortality rate has been in excess of 50 per cent, mostly because of secondary infections.

Psychological Reactions

As this disease has a high mortality, the contacts and the patients are more prone to psychiatric complications.

Patients: The studies on AIDS patients in the US have reported the following psychological reactions:

. Shock of diagnosis and facing possible death.
. Feeling of powerlessness to change circumstances and consequent frustration and anger.
. Reduced physical functioning because of declining health.
. Anxiety about the reactions of others, with consequent social withdrawal and loss of social support.
. Fear of infecting others, particularly lovers and fear of getting infection from them.
. Reduced sexual functioning, loss of libido and erectile dysfunction.
. Fear of being deserted and of dying alone.
. Fear of dying in pain.
. Reduced cognitive functioning because of anxiety, depression, obsessional worries, possible intellectual impairment (delirium and dementia) and even attempted suicides.
. Social, domestic and occupational disruption.

Contacts: The persons who have been exposed or are at risk may show the following symptoms:
. Anxiety about having AIDS and the virus.
. Depression about the perceived inevitability of infection, and/or developing full syndrome.
. Morbid obsession about the disease with ruminations and checking for symptoms.
. Guilt about being homosexual or drug addict and resurrection of past 'misdemeanours'.
. Social, domestic and occupational disruption and stress.

Management: The proper investigations to rule out AIDS can alley anxiety and fear in persons at risk. The correct counselling to remove the misconceptions and to adopt the precautions can avoid psychological complications in patients and their relatives. The short list of suggestions put together by the counsellors of the Terrance Higgins Trust, after working closely with people with AIDS, is:

- A person with AIDS needs your friendship more than ever. So it is important for him to know that you are a friend that he can trust and rely upon.
- There is no danger of contracting AIDS if you hold his hands (remember some newspapers and media have tried to persuade him that he is a social leper).
- Don't be afraid to show your emotions or to reveal how you feel.
- Just because someone has AIDS does not mean that he wants to stay at home all the time. A trip can be very therapeutic provided it does not overtax him.
- If he wants to talk about his illness, encourage him to do so.
- Just because someone is ill does not mean that he has lost interest in life. Social contacts should be maintained. Remember, hope is very important to someone with AIDS.

The early diagnosis and correct (medical and psychological) treatment of AIDS patients and the counselling of those looking after these patients can avoid most of the complications resulting due to AIDS.