

The Jungalwalas of Gujarat

The *Second Annual Congress of the International AIDS Society* was hosted by Sydney, Australia in July 2007. There was some sketchy and elementary news reported in the media, incomplete to my mind. Some of the unpleasant surprises in the news reports prompted me to probe into the present status of this subject matter. The data I was able to unearth was horrifying and this was only from the material I had gathered from countries that have a health service and/or a social infrastructure to assist patients suffering from this relentlessly progressive and potentially fatal disease - HIV AIDS. The plight of patients in countries, which have no organized and planned approach and no proper health service is a lot more than just horrifying - I am unable to find the appropriate word.

The disease, **AIDS** became widely recognized as a new illness in early 1981. The HIV blood test to confirm the disease was yet to be developed. When a laboratory test was made available the disease was renamed HIV AIDS.

HIV (Human Immunodeficiency Virus) is a ‘retrovirus’ - a single-stranded RNA virus that induces the formation of DNA using their own RNA as a template. The DNA is then incorporated into the genome of infected cells that often become cancer producing. Some viruses, such as the ones that cause the common cold or the flu, stay in the body only for a few days. The HIV stays on for life. When a person becomes infected with HIV, that person becomes “HIV positive” and will always remain HIV positive. After HIV enters the body, it holds on to the **white blood cells called ‘CD4 lymphocytes’ or ‘T cells’** and works its way inside the cell. Once inside, the virus completely takes over the T cell and multiplies. The newly made viruses then leave the T cell and go on to infect and destroy other healthy T cells as they continue to multiply inside the body. After the virus invades the T cells, they can no longer properly fight infections. Over time, the body is unable to fight off certain kinds of infections and cancers. In other words the body’s immune system (which keeps it alive and healthy) is gradually eroded away. With successful antiretroviral therapy, the body can remain healthy and fight off most viruses and bacteria. A reasonably healthy person usually has a CD4 count of between 600 and 1,200 (considered as a normal immune system). When the CD4 count drops below 200, a person’s immune system is severely weakened. The patient exhibits severe symptoms of AIDS and is then diagnosed with **AIDS**, even if **the patient** has not become sick from other infections. **It can take up to 6 months to test positive for HIV after being exposed.**

This is called the “window period.” To be completely sure that one does not have HIV, one needs to be tested again in 6 months or twice 3 monthly, and continue to protect oneself. **AIDS (Acquired Immune Deficiency Syndrome)** is caused by the HIV. AIDS usually takes time to develop from the time a person acquires HIV. It can take weeks, months or years (in some cases 10 years or more) to develop AIDS after the HIV test becomes positive. Once a patient has been diagnosed with AIDS that patient will always be considered to have AIDS, even if the CD4 count goes up again and/or they recover from the disease that defined their AIDS diagnosis.

The words HIV and AIDS can be confusing because both terms describe the same disease. **AIDS is really an advanced form of HIV disease.** A person with AIDS has an immune system so weakened by the HIV virus that the person usually becomes sick from one of several **opportunistic infections or cancers** such as PCP (a type of pneumonia) or KS

(Kaposi sarcoma), wasting syndrome (involuntary weight loss), memory impairment, or tuberculosis, and more recently a return of the old venereal diseases. If someone with HIV is diagnosed with one of these opportunistic infections (even if the CD4 count is above 200), he or she is said to have AIDS. *At this time, there is no cure for HIV.* But there is enough *management available to help suppress the disease and prevent it or delay it from progressing to AIDS.* Since this is the current reality, it is important that those people who are not infected with HIV stay negative and those living with HIV/AIDS stay healthy.

For people infected with HIV, drug development has helped to somewhat change the face of the disease. Whereas HIV infection once meant certain death, *drug therapy has helped to prolong and improve the quality of life for many individuals.* HIV is a retrovirus, so the medication used to negate the properties of the virus are called antiretroviral. There are many different types of Anti retroviral medications, but they all work by slowing the growth or inhibiting the multiplication of the virus. *Although these drugs do not kill the virus, they effectively reduce the levels of HIV in the blood.* Since there is currently no way to get rid of HIV from the body once someone is infected, most people with HIV will probably still have the virus when they die. It is possible to get HIV and live a normal, relatively healthy lifespan.

HIV is often thought of as an incurable, fatal illness, and it certainly can be—especially once a person's immune system is weakened to the point symptoms of AIDS set in. Even without treatment, it can take up to 10 years for someone who gets HIV to develop AIDS. Some people get AIDS much more quickly, while others do not get it until much later. Without supportive management, most people with HIV will eventually develop AIDS and die. In fact, most people with HIV in the world cannot afford the treatments that may allow them to stay healthy or live longer. Since 1996, improved medications for HIV have given many HIV-positive patients renewed hope. While the treatments are not a cure, they may help to keep people with HIV who are able to take them healthy for a long time. Some patients may do well for many years. Others die in spite of full management. There is still a great need for research to find new and better treatments for HIV, so that the disease will not threaten people's lives and cause so much suffering.

The first patients presented usually with a severe ulceration in his mouth, soreness in the throat and severe general debility. My first patient, a young staff member of our hospital was admitted urgently under me in early 1982. This patient showed extreme irritability and insisted I indicate to him what I thought was the diagnosis. During those early days, since the HIV Blood Test had not yet been developed it was difficult to arrive at the diagnosis with certainty. Whatever I knew about the disease at the time was from the media reports. The presence of multiple 'shotty' (ball-bearing like) neck lymph nodes, which could be felt was one observation from among many other diagnostic features, which he had. None of the blood tests and other pathology investigations pointed towards any known specific disease. In spite of all modern anti-infective treatment his condition deteriorated rapidly ending in a fatal outcome. Then, a series of such admissions into the Infectious Diseases Section of our University College Hospitals followed rapidly. They showed similar progress and outcome until equipment for the HIV test was available to help establish the diagnosis although the management of the disease remained the same - to give as much palliative relief as possible to allay the severity of the symptoms.

As I looked back at the problem of such relentlessly progressive infectious diseases during my undergraduate medical days more than 50 years ago I reflected on the plight of patients

suffering from Syphilis, Gonorrhoea, Leprosy and other lesser ones - labelled collectively as Venereal Diseases. I realised that the management of their suffering was akin to that of the present HIV AIDS patients during their long, relentless and protracted course. There was only palliative symptomatic relief of some or most symptoms until the different combination of medications slowly ceased to have their desirable effect or new medication and /or combinations were made available. The infective organisms learnt to become resistant to the chemical management at curbing the progress of the disease not unlike the present management of HIV AIDS with a cocktail of medication, which needs to be constantly monitored, updated, changed ... etc.

Zarathushti entrepreneurial spirit:

Here is where our entrepreneurial Zarathushtis of old, possessing a working knowledge of chemical compounds and innovative skills, had once stepped in. Recognizing the efficacy of a large number of chemical compounds and working through trial and error they embarked on the practice of allaying the suffering of these unfortunate patients. Since there was clearly no other alternative they were sought after as Specialist Physicians perhaps at some stage in the early 1900s or even earlier. They called themselves by their 'tradename' *Jungalwala - pronounced 'Junglewala' incorrectly, the real pronunciation is Jungaal-wala*. Our Professor of Gynae/Obstetrics, Dr Behram Jungalwala in my Medical College used to snap annoyingly when his name was mispronounced ("Don't call me Junglewala. I am not a Junglee"). They entrepreneurs were highly successful Zarathushti practitioners (just like their counterparts, the Zarathushti 'Haadvaid's' - 'Bone Setters' were) in India who had 'taken up' the lucrative practice of medicine in the field of Venereal Diseases as 'specialist physicians'. Their knowledge, clinical acumen and shrewd innovation of the trial of using new compounds, was highly acclaimed. When resistant strains of the organisms were encountered (as in the case of the present HIV AIDS patients) they 'juggled' with the various new compounds to try and overcome the hurdle. Their practice (again as that of the 'Haadvaid's') was passed on from father to son(s).

Like the present symptomatic management of HIV AIDS they helped suppress the disease symptoms and thus allay their patients' sufferings. The main scourge in those days was from Syphilis and Gonorrhoea and also from other allied infectious diseases Herpes, Leprosy etc. With subtle adjustments, using a variety of chemical 'cocktails' it helped manage the symptoms and make life bearable and often even comfortable. Prior to the late 1800s and early 1900s Mercury Compounds were unsatisfactorily used. The improvement of the nasty symptoms was minimal or nil. They were replaced by, at first, Arsenic compounds. The Hindi word, 'Jungaal' was initially limited to various Arsenic Compounds only. Initially, the Arsenic Compound dioxy-diaminoarsenobenzol-dihydro-chloride was used and claimed to be a specific for "syphilis". The new drug was called **Salvarsan**, since it was hoped it would prove to be the salvation of "syphilitics". An improvement helped create a better medication which was labelled **Neo-salvarsan**. This new Salvarsan was produced in an effort to avoid some of the disagreeable side actions of salvarsan. Two new ones -**arsphenamine** and **neo-arsphenamine proved even better**. **Fowler's solution**, a patented remedy was a solution containing a 1% solution of potassium arsenite. Later, several other compounds of elements like Zinc, Bismuth ... etc were found to be effective. The dosage, strength, combination of a number of these chemical medications and new additions were tried and their effectiveness was constantly monitored with appreciable relief of symptoms in these grateful patients.

In spite of devoted work and considerable relief provided by these persistent Zarathushtis, to the pessimists and the sceptics the axiom unfortunately persisted - "Once a syphilitic, always a syphilitic." However, with the ready availability of Penicillin after World War II Syphilis and Gonorrhoea were almost completely eradicated. Further, the chance discovery that Leprosy could be induced in the Mexican ant-eater, the Armadillo assisted research to make it possible to develop anti-leprosy medication. The development of effective and curative medication as in Syphilis and Gonorrhoea became a reality for Leprosy, too.

Paradoxically, the lucrative practice of the Jungalwalas, who for long had helped sustain the quality of the lives of thousands of patients gradually waned and slowly fizzled away. The tragedy now is that Syphilis and Gonorrhoea have come back with more vigour, mostly seen in patients in association with HIV AIDS. What is more the Penicillin and its broad spectrum derivatives and other modern antibiotics, which were once curative, do not seem very effective against the above mentioned Venereal Disease even in those patients where the symptoms of the HIV AIDS with modern chemical drugs do improve. This observation is frightening, but there is always hope. If these patients can continue to survive with minimal symptoms perhaps one day an Alexander Fleming might well be born to present a treatment for cure.

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