A Preliminary Survey Report Of Human Immunodefeficieny Virus Infection For Creation Of Awareness To Screen High Risk Population .

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To create an awareness amongst medical profession and general public to promote health care system on modern trends for proper methodical and continuous screening of Pakistani population for proper statistical evidence. Design Of Study: random selection sample from 2 high risk population places were selected to formulate a base line pilot study for future screening programme of HIV.
Key Words :Human Immunodeficiency Virus, Autoimmune Deficiency Syndrome

Serological testing for human immunodeficiecy virus(HIV) has shown that millions of persons are infected world wide.

What proportion of these will have progression to symptomatic and fatal disease, and at which rate are critical questions. In approximately half the persons infected with HIV the acquired immunodeficiency syndrome (AIDS) develops within a ten years period. In view of this, there is a dire need of screening and identifying people infected with HIV, so that suitable measures for their treatment can be undertaken. This is so because although the tempo of disease progression may be extremely variable, most of the infected will eventually go on to have a serious and probably fatal outcome.

In 1997 a decline in the mortality of patients with AIDS and in the number of new cases of AIDS has been observed in the routine data collected. These trends have been attributed to the advances in anti retroviral treatment following the screening measures taken.

Throughout the world, the groups most affected are sexually active men and women in their twenties and forties, reflecting the fact that HIV is predominantly sexually transmitted. In developing countries the main routes of transmission are , heterosexual intercourse, blood transfusions and use of contaminated needles.

Subjects And Methods

A total of 109 high risk subjects were screened they were divided as follows:
1.51 subjects from central camp jail ,Shadman, Lahore.
2.58 subjects from blood bank; Mayo hospital, Lahore.
In both groups ,age and sex matched controls were taken.

The kit used for mass screening of subjects was SERODIA-HIV (FUJIREBIO INC. Tokyo Japan).The principle component of the SERODIA -HIV test is in a suspension of gelatin particles sensitized or coated with purified inactivated HIV Antigenicities sensitized particles will agglutinate in the presence of antibodies to HIV in serum or plasma sample. HIV antigen is prepared from concentrated culture fluid from an HIV producing cell lined by subjecting it to sucrose gradient centrifugation and by collecting a virus fraction according to a density 1.16 grams/cubic cm.

Method

1. 1.The subject's serum was obtained.
2. Serum diluent containing sodium phosphate, sodium chloride and sodium azide solution was put in each of the three wells in the microplate.75 microlitre in well 1 , 25 microliter in well 2 and 3 respectively.
3. Test sera was put in well 1 only.
4. 4.Dilution of 1:8 and 1:16 were prepared by transferring 25 microlitre of mixture from well 1 to well 2 and the same amount from well 2 to well 3.25 microlitre from well 3 were discarded.

Well 1 contains

(a) Serum diluent 75 microliter
(b) Test sera 25 microliter

Well 2 contains

(a)Serum diluent 1:8 dilution
(b)Test sera   1:8 dilution
(c)Unsensitized particles25 microliters

Well 3 contains

(a)serum diluent 1:16 dilution
(b)Test sera   1:16 dilution
(c)25 microliters of sensitized particles (antigen)

Mix contents in the wells and cover the microplates.Incubate for 2 hours and then later for 24 hours.

Interpretation

1. Well 2 acts as control in which a uniform button is seen.
2. The positive result is seen in well 3 as agglutination present.
3. The negative result is seen in well 3 as no agglutination present.
4. The borderline result was read after 24 hours of incubation.

Table I

Number	Positive cases	Borderline cases	Negative cases
109	03	01	105
Percentage	2.7%	0.9%	96%

Prevalence of HIV-1 infection in high risk population groups.

Table II

Number	Positive cases	Borderline cases	Negative cases
51	03	01	47
Percentage	5.8%	1.9%	92%

Screening of HIV-1 infection in Central Camp Jail Shadman Lahore.

Table III

Number of cases	Jail	Blood Bank	Chi Square Value	P Value
Total	51	58		
Positive cases	03	Zero	4.7	< 0.025*
Borderline	01	Zero		
Negative cases	47	58		

Degree of comparison of HIV-1 positive subjects in Blood Bank and Central Jail Lahore.* The value of P i.e. <0.025 was found to be statistically significant.

Results

A total of 109 high risk males were tested for HIV-1 antigen. The prevalence rate for HIV -1 antigen positive cases was 3.6%. Three males were HIV-1 positive (2.7%) and one male was a borderline case (0.9%) as shown in Table-I. The blood bank group consisted of 58 males while the prison group comprised of 51 males. All of the positive cases were identified in the prison group only as shown in Table-II. The difference of disease prevalence between the two high risk group was statistically significant (p Value <0.025) as shown in Table-III (Chi Square was applied).

Discussion

A tenfold increase in AIDS will occur in the near future, based on the 10-15 million people thought to be currently infected world-wide with HIV. This figure, however may be far below what is the true situation because in many developing countries testing facilities are lacking and no formal systems exist for the surveillance and reporting of HIV disease [3].

Our study revealed that out of the 109 subjects screened, 2.7% were HIV positive This result is statistically significant (p<0.025) to the fact that no HIV positive subjects were found in the blood bank. we attribute it to less no of subjects screened. This confirmation is in accordance with the low percentage of HIV positive individuals in blood banks as stated by

the United Nations AIDS Centres for disease control 1996 [4].

It is believed that by the year 2000, ninety percent of the people infected with HIV will live in developing countries [5]. Two thirds of the roughly sixteen million people in the world infected with HIV live in the sub-Saharan Africa [6]. Patients infected are usually not diagnosed until they present with infection often several years after their sero-conversion [7]. HIV1 specific T-lymphocytes decrease in frequency overtime [8]. In developing countries most of those infected with HIV live in the cities [3], so mass screening of subjects of high risk groups present an opportunity to diagnose HIV infection early before a patient presents with opportunistic infections and advance collapse of the immune system [7]. Even on the vaccine front, we need to move away from the long range goal of prevention of infection towards a focus of preventing disease in people who have already been infected [5]. The prevalence of HIV infection among intravenous drug users has posed different challenges to the health care system [9]. Routine screening policy should be adopted from such high risk groups such as blood banks, airports, prisons, army barracks, patients of sexually transmitted diseases, family planning clinics and pre natal clinics should yield information that is valuable for informing the public of their chance of contacting an infected individual. Such information may also serve to heighten the patient's self awareness and to increase carers' insight of the patients view of the situation [10]. Persons with apparent risk factors for HIV infection should be re-tested with standard enzyme immunoassay and Western Blot testing at one to three month intervals, tested by other supplement essays, or both, if available [11].

The possibility of breaking the infection chain is a reality. The health care professionals, both individually in their practice and collectively through their organization will have to assume leadership roles in this context.

Conclusions

The preliminary evaluation report of healthy population screening at high risk revealed the following conclusions:
1. All the blood banks of health services systems should screen the HIV screening test as a permanent sensitive analytical test for blood transfusion.
2. The confirmed positive cases and borderline cases should be isolated for further conformational analysis. Treatment, health education and statistical record of HIV incidence in Pakistan must be maintained.
3. An awareness of AIDS and HIV existence, the increasing rate of detection and comparison of resistance/sensitivity of treatment needs comprehensive work plan policy by the health authorities with the formulation of a proper screening programme constitution multiple health task forces.

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