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Original Research Article

To determine the incidence of transfusion related disease & conduct some special tests for diagnosis in blood donors

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ABSTRACT

Background & Method: Tests are routinely done on every blood unit to exclude HIV, HBV, HCV, syphilis and malaria. Donors were selected by the standard criteria for donor fitness. The screening for HIV was done by ELISA using kits. HBS Ag was detected by ELISA. Anti-HCV test was done by ELISA.
Study Designed: Retrospective study.
Result: Seroprevalence of bonding communicated infection is higher in intentional givers 62% when contrasted with substitution/relative 38% contributors. Seropositive in coinfection of bonding communicated sickness. Seroprevalence of co-contamination is 0.04% and it is higher for HBV with HIV disease.
Conclusion: Over all seroprevalence of transfusion transmitted disease in all donations in the year 2008-10 is 2.19%. Seroprevalence of transfusion transmitted disease is higher in voluntary donors 62% as compared to replacement/relative 38% donors. Seroprevalence of co-infection is 0.04% and it is higher for HBV with HIV infection. This high prevalence of transfusion transmitted disease in youth suggests a potential public health problem.

1. Introduction

Human immunodeficiency contamination (HIV) is a lentivirus(a person from the retrovirus family) that causes (AIDS), a condition in individuals where reformist disillusionment of the safe system grants hazardous sly illnesses and dangerous developments to thrive. Screening of blood things for HIV has commonly discarded transmission through blood bondings or polluted blood things in the made world.[1]

HIV defiles central cells in the human safe system, for instance, helper T cells (expressly CD4+ T cells), macrophages, and dendritic cells. HIV pollution prompts low levels of CD4+ T cells through three essential parts: First, direct mainstream killing of spoiled cells; second, extended speeds of apoptosis in corrupted cells; and third, killing of debased CD4+ T cells by CD8 cytotoxic lymphocytes that see polluted cells. Right when CD4+ T cell numbers decline under a fundamental level, cell-interceded obstruction is lost, and the body ends up being legitimately more unprotected to sly infections.[2]

HIV is different in structure from other retroviruses. The single-deserted RNA is solidly bound to nucleocapsid proteins, p7 & impetuses needed for the improvement of the virion like banter transcriptase, protease, ribonuclease and integrase. Broadness of around 120 nm, around various occasions not exactly a red platelet, yet huge for a virus.[3] It is made out of two copies of positive single-deserted RNA that codes for the contamination's nine characteristics encased by a channel formed capsid made out of 2,000 copies of the viral protein p24. A system made out of the viral protein p17 includes the capsid ensuring the genuineness of the virion particle.[4]

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Table 1: Age wise distribution of seroprevalence of HCV in the year 2008-10

Year	Age Group (in years)				Total
	18-25	26-35	36-45	46-60	
2008	03 (0.022%)	04 (0.030%)	02 (0.015%)	00 (00%)	09 (0.07%)
2009	02 (0.014%)	02 (0.014%)	01 (0.007%)	00 (00%)	05 (0.035%)
2010	00 (00%)	00 (00%)	00 (00%)	00 (00%)	00 (00%)
Total	05 (0.011%)	06 (0.014%)	03 (0.007%)	00 (00%)	14 (0.032%)

Table 2: Seropositivity of transfusion transmitted diseases in total blood units collected during the year 2008-10

Year	Units Collected	Seropositive In total units	Voluntary donor	Seropositive (voluntary donor)	Replacement donor	Seropositive (replacement donor)
2008	13052	281 (0.021%)	9238 (70.78%)	66 (0.505%)	3814 (29.22%)	215 (1.64%)
2009	14226	330 (2.13%)	10557 (74.20%)	257 (1.80%)	3669 (25.80%)	73 (0.513%)
2010	15304	306 (2.00%)	11651 (76.14%)	242 (1.58%)	3653 (23.86%)	64 (0.418%)
Total	42582	917 (2.15%)	31446 (73.84%)	565 (1.32%)	11136 (26.15%)	352 (0.826%)

Table 3: Seroprevalence of co infection with HBV, HCV and HIV

Year	HBV+HCV Seropositive	HBV+HIV Seropositive	HBV+HCV+HIV Seropositive	Total
2008	01	02	02	05
2009	00	09	00	09
2010	00	03	00	03
Total	01	14	02	17 (0.040%)

2. Materials and Method

The present study is being undertaken in the Department of Pathology. This is a retrospective study that was conducted, during the period. Tests are routinely done on every blood unit to exclude HIV, HBV, HCV, syphilis and malaria. Donors were selected by the standard criteria for donor fitness. The screening for HIV was done by ELISA using kits. HBS Ag was detected by ELISA. Anti-HCV test was done by ELISA.

Antiglobulin Type ELISA Method, Serum or weakened serum is added to the wells covered with HIV explicit proteins. Positive and negative controls are added to various wells on each plate run. It is solid phase enzyme immunoassay utilizing polystyrene wells of microplates or beads coated with HIV specific proteins representing HIV core and envelope antigens, hatched for the characterized timeframe and at the right temperature. During the brooding, a particular immunizer present in the test serum tough situations to the viral antigen.

3. Results

Seropositivity of transfusion transmitted disease in 2008-10, transmitted disease is higher in voluntary donors 62% as compared to replacement/relative 38% donors.(Table 2)

Seropositive in coinfection of transfusion transmitted disease. Seroprevalence of co-infection is 0.04% and it is higher for HBV with HIV infection.(Table 3)

4. Discussion

In our investigation, generally seroprevalence of co-contamination is 0.04% and it is higher for HBV and HIV disease than different contaminations with HCV. Out of all blood gifts, the seroprevalence of bonding sent sickness are 936 (2.19%), which are influenced in any event one microbe and seroprevalence 17 (0.04%) with different contaminations. Seroprevalence is lower in co-contamination than single disease.

In our examination, out of 42582 complete positive cases HBV with HIV 14 cases, HBV with HCV 01 case, HBV with HIV and HCV 2 cases. Seroprevalence of co-contamination 0.04% in complete cases. Essentially, out of all blood contributors in 2009, 1348 (29.82%) were tainted with at any rate one microbe and 149 (3.30%) had serological proof of various diseases by Marius Bolni Nagalo and Mahamoudou Sanou et al. directed in Koudougou.[5] Of all gave blood during the investigation time frame, 607 (9.5%) had serological proof of disease with at any rate one microorganism and 50 (0.8%) had various contaminations study directed in University of Gondar, Ethiopia. Among those with numerous contaminations, the most well-known mixes were HIV - HBV 17 (34%). The 0.031prevalence of HBV-HCV co-contamination and 0.27% commonness saw among blood contributors with HIV-HBV co-disease rate detailed by Tessema et al. in Northwest Ethiopia.

The commonness of HBV as evaluated based on the presence of HBsAg in patients contaminated with HIV was 9.9% (117/1178), the pervasiveness of HCV with HIV was 6.3% (74/1178) and the predominance of HIV with both HBV and HCV was ~ 1% (12/1178) by Manisha Jain and Anita Chakravarti et al. led in New Delhi.

In our investigation, Seroprevalence is higher in the age bunch long term for HBV-0.904%, HIV-0.105% and HCV-0.014%. Age bunch long term are show higher seroprevalence (1.023%) for a wide range of bonding sent sickness.

In another examination, the most raised seroprevalence of antagonistic to HCV was found in folks beyond 61 years old years. The most essential seroprevalence for antagonistic to HIV was found in the age bundle 31-40 years by Smita Sood and Shirish Malvankar et al. coordinated in Rajasthan.[6]

In another assessment, 3 positive cases had a spot with 21-40 years age pack by S Mishra and N Chayani et al. drove in Orissa.[7] Study coordinated in Singapore by Guan R, Yap I, Lee E et al. exhibited number of positive cases to be most noteworthy in a day and a half years pack (76.92%) than in 31-35 years age bundle (71.43%).[8]

The seroprevalence of HCV was higher among the most young age bundle (under 20 years old; P<0.001) and in subjects >40 years (P=0.005) appeared differently in relation to the inescapability in subjects in the age pack 30-40 years old by Marius Bolni Nagalo and Mahamoudou Sanou et al coordinated in Koudougou.

5. Conclusion

Over all seroprevalence of bonding communicated sickness in all gifts in the year 2008-10 is 2.19%. Bonding communicated sickness is higher in willful benefactors 62% when contrasted with substitution/relative 38% contributors. It's co-contamination is 0.04% and it is higher for HBV with HIV disease. This high pervasiveness of bonding sent illness in youth recommends a potential general medical issue.

6. Source of Funding

None.

7. Conflict of Interest

The authors declare that there is no conflict of interest.

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