

ABO BLOOD GROUPS AND SERO-POSITIVITY FOR SYPHILIS IN BLOOD DONORS AND ANTENATAL CASES

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Summary

V.D.R.L. tests and blood grouping was carried out on 1537 blood donors and 1968 antenatal cases at Medical College Hospital, Aurangabad. There is no evidence of any association between seropositivity for syphilis and ABO blood groups.

Since the demonstration (Aird et al¹), of an association between carcinoma of stomach and blood group A, a large number of studies has been carried out to find such an association between blood groups and various non-communicable and communicable diseases. This article relates the results of an analysis carried out to find out if any association exists between seropositivity for syphilis and ABO blood groups.

V.D.R.L. tests are carried out routinely by V.D. control unit, along with the blood-grouping carried out at the Blood Bank, at Medical College Hospital, Aurangabad, on blood donors and antenatal cases. The data analysed were collected from October, 1970 to August, 1971.

Observations

During this period 1537 blood donors were tested for blood groups and

V.D.R.L. test positivity. 70 of the donors were found to be having a positive serological test for syphilis. Table I shows the distribution of all the donors and positive reactors according to blood groups. Chi-square analysis shows that there is no evidence that the distribution of sero-positive individuals according to ABO blood-groups is different than that seen among all donors, attending the Blood Bank.

TABLE I
Distribution of blood-donors and V.D.R.L. test positive donors according to blood groups.

Blood Group	Donors	Seropositive
A	391	14
B	503	26
AB	96	1
O	547	29
Total	1537	70

During the same period, blood-groups and V.D.R.L. testing was carried out on 1968 expectant mothers. 44 sera were positive. Table 2 shows the distribution according to blood groups. Chi-square analysis shows that the distribution of total cases and seropositive

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cases according to blood-groups is statistically not different significantly.

TABLE 2

Distribution of antenatal cases and V.D.R.L. test positive cases according to blood groups

Blood Group	A.N. Cases	Seropositive
A	458	13
B	697	15
AB	10	1
O	633	15
Total	1968	44

Discussion

The percentage of positive sera in sera tested is 4.7 in blood donors and 2.3 in antenatal cases.

V.D.R.L. test was carried out only once on a person. A positive test generally indicates the presence of reagin, but it can also be a Biologically False Positive (BFP) result, or a technically false positive result.

B.F.P. tests have been reported to occur in the presence of a number of other non-treponemal infections and other conditions, such as aging (Tuffanelli²), acute infectious fevers, vaccinations, iron deficiency and haemolytic anaemias, chronic granulomata, pre-eclamptic toxæmia, pregnancy, etc., (Adeoba³). However, there is no reason to believe that these factors were present in blood-donors. All the donors were males, not suffering from any acute illness and did not have anaemia. Anaemia was present in a large number

of antenatal cases. But it has been shown (Morrison⁴), in a study of 60 BFP tests in antenatal cases, that there is no association between BFP results and ABO Blood groups.

Technical false results are also not likely to be important, as the tests carried out in this laboratory are routinely compared with the Reference Laboratory, Madras, under the National Interlaboratory STS Evaluation and Standardization Programme. The agreement has been 90% and reproducibility has varied from 80% to 100%.

Thus, it appears that there is no association between ABO blood groups and sero-positivity for syphilis.

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