ABO BLOOD GROUPS IN LEPROSY

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Buchanan and Higley[1] from Mayo Clinic are credited with the description of relationship between diseases and blood groups. Levine et al[2] showed that hemolytic disease of the newborn was due to Rh incompatibility. Aird et al[3], Beasley[4] and Clarke et al[5] noted the relation of blood groups with gastric cancer and peptic ulcer. Clarke[6] found association with diabetes mellitus, rheumatic carditis, cancer of colon, bronchopneumonia in children, hypertension and toxaemia of pregnancy. Hurkat et al[7] and Mitre[8] could not find any positive relationship between ABO blood groups and various diseases they investigated. The exact role played by genetic factors in various diseases is still unknown. Since long it is thought that susceptibility to leprosy has some hereditary basis. Ali[9] and Lechat et al[10] found more leprosy in group 'A'. Hsuen et al[11] Paidhock[12] found increased incidence of leprosy among group 'O' and low in group 'B'. Beiguelman[13] found excess of 'A' group in lepromatous and excess of 'O' group in tuberculoid. Ghosh et al[14] found higher prevalence of 'O' group and less prevalence of 'B' group among the lepromatous leprosy patients, Yankah[15] found no significant difference of frequency of ABO blood groups than that of normal population but he observed tuberculoid leprosy incidence was higher among group 'O'. Lowe[16] Santo et al[17] Verma et al[18] Povey et al[19] Sing et al[20] found no significant difference of blood groups between leprosy patients and population.

There are conflicting reports on ABO Blood groups and Leprosy. No study has been done so far in South Gujarat where the incidence of leprosy is high. So a study was conducted in Surat, a main city of South Gujarat.

Material and Methods

The investigation was carried out on 500 Leprosy cases out of which 400 were lepromatous cases and 100 non-lepromatous. All these patients belonged to South Gujarat. The cases were taken from Medical College Hospital, Surat and Parvatibai Leprosy Hospital, Surat. The control group consisted of 1000 different blood donors who attended the Blood Bank of New Civil Hospital, Surat and all belonged to Surat district.

Blood was obtained by the finger-prick method in all these cases and Blood grouping was done immediately after collection. The diagnosis of Leprosy and its type was determined by clinical examination of the patient. In doubtful cases bacteriological and histopathological examination were done.

Results and Discussion

The results have been presented in the Table Nos. 1 and 2. Table I shows the distribution of types of leprosy among the 500 patients and Table-II

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shows the blood group distribution of 1000 blood donors (control), 400 lepromatous leprosy and 100 non-lepromatous leprosy patients.

TABLE 1

Distribution of Types of Leprosy among the 500 Patients

Type of Leprosy	No. of cases
Lepromatous	400
Non-Lepromatous	100

Usually 5% level of significance is employed for testing the differences in two frequency distributions, but we have employed 1% level of significance only, because the subject is highly controversial and conflicting results have been obtained by different workers.

For both lepromatous and non-lepromatous types, observed distributions were tested with the control group. Combined group was tested with control. Lepromatous type and combined group showed significant difference with the control. (Significant at 1% level). The population with lepromatous type infection has a different distribution from the control group. This is not true for non-lepromatous type. (Not significant at 1% level).

TABLE 2

Distribution of Blood groups among leprosy Patients and normal population

Blood Group	Control No. of Cases	Series cases percentage	Lepromatous No of cases	percentage	Non-Lepromatous No. of cases	percentage	Combined Series No. of cases	percentage
A	250	25.0	126	31.5	31	31	157	31.4
B	357	35.7	101	25.3	39	39	140	28.0
O	336	33.6	133	33.3	20	20	153	30.6
AB	57	5.7	40	10.0	10	10	50	10.0
Total	1000	100	400	100	100	100	500	100

When distribution of cases in lepromatous and non-lepromatous groups were tested, there was no difference at 1% level, but difference at 5% level was observed, probably because of small size in non-lepromatous group.

The difference in distribution in control and sample groups were tested by standard error of difference of proportion in various blood groups. It was found that in lepromatous Leprosy B group was affected less in the sample than control and the difference was highly significant (Significant at 1% level). No significant difference was observed in B group as well as in A group between patients with non-lepromatous leprosy and control group. In 'A' and 'AB' group, both lepromatous and non-lepromatous leprosy patients are apparently affected more than the control but the difference was not significant at 1% level. In 'O' group there was no significant difference between lepromatous and control series. In non-lepromatous cases 'O' group was apparently affected less in the sample than control and the difference was not significant at 1% level.

Conclusion

The Group 'B' is less prevalent among the lepromatous type of leprosy cases.

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TRUE or FALSE ?

The fragmentation and disorganisation demonstrable in the collagen bundles with presence of γ globulin between these bundles in cases of Lichen Myxedematosus is characteristic of this condition and has the same significance as the mucicarmine stainable infiltration in the subpapillary region.

(Answer page No. 254)