Short Communication

Frequency of ABO and Rh blood groups in patients with acute leukemia

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Abstract

Background and Objective: There are some reports about probable association between acute leukemia and special blood groups. Frequency of ABO and RH blood group is different in each population. This study was done to determine frequency of ABO and Rh blood groups in patient with acute leukemia and healthy population.

Materials and Methods: This case - control study was done on 214 patients (132 males, 82 females) that suffering from acute leukemia as case group and 117026 individuals healthy population who were voluntary blood donors as controls in Mashhad, Iran during 2001-07. Age, sex, ABO blood group and RH blood group were collected from hospital files for each cases. Furthermore the results of ABO and RH blood groups of controls were collected. Data were analyzed with Chi-Square, fisher test and Odd’s ratio.

Results: The frequency of A, B, AB, O and RH blood groups in cases were 23.8%, 32.8%, 7.0%, 36.4% and 90.7%, respectively. The frequency of A, B, AB, O and RH blood groups in controls were 29.8%, 27.4%, 8.9%, 33.9% and 88.3%, respectively. Odds Ratio test didn’t show association of ABO and RH blood groups with acute leukemia. Odds Ratio test showed association of B blood group with acute leukemia in females (OR=0.571, 95%CI: 0.358-.0908, P=0.021).

Conclusion: This study showed although there was not any association between ABO and RH blood groups and acute leukemia but probably females with B blood group are more susceptible toward acute lymphoblastic leukemia.

Keywords: Acute leukemia, ABO blood group, RH blood group

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