

Letters to the Editor and Brief Communications

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ASSOCIATION OF ABO AND Rh(D) BLOOD GROUPS WITH TRICHURIASIS IN THE NORTH OF IRAN

To the editor:

The association between blood groups and various diseases has been studied for more than 40 years. Many diseases including protozoan and helminthic diseases have been studied. From among helminthic diseases, the association between ABO blood groups and filariasis, ascariasis, schistosomiasis, trichuriasis and strongyloidiasis have been studied.¹⁻⁵ No study has been done concerning the distribution of ABO and Rh blood groups in *Trichuris trichiura* infection in Iran. This study was performed on patients with *Trichuris trichiura* infection who were randomly selected from inhabitants of the Caspian littoral in northern Iran. After parasitological examinations by the

formalin ether concentration technique, blood samples from 120 individuals with pure *Trichuris trichiura* infection were taken and examined for ABO and Rh(D) blood groups using a slide method. The control groups were from another study.⁶ Statistical analyses were performed using Chi-square methods. The relative incidence or odds ratio were also determined. Table I shows the ABO and Rh(D) distribution in *Trichuris trichiura* infected individuals and the control group from the Caspian region of north Iran. Statistical analysis using χ^2 test confirmed significant differences in ABO distribution of *Trichuris trichiura* infected individuals as compared with the control group ($P < 0.05$). Blood group O shows the highest frequency (52%), followed by A (27.5%) in the patients. The relative O/A incidence (odds ratio) is 1.4096, O/B incidence is 3.0707 and O/AB incidence is 3.7282, which shows that there is a strong association between blood group O and *T. trichiura* infection and a weaker

Table I. ABO and Rh⁺ or Rh⁻ blood group distribution among *Trichuris trichiura* infected individuals and controls in the north of Iran.

| Groups | | Blood groups | | | | | | | Relative incidence (odds ratio) | | | |
|----------------------|-----|--------------|-------|------|-------|--------------------|--------------------|-------|---------------------------------|--------|--------|--------------------------------|
| | | A | B | AB | O | Rh(D) ⁺ | RH(D) ⁻ | Total | O/A | O/B | O/AB | D ⁺ /D ⁻ |
| Trichuris infected | No. | 33 | 21 | 3 | 63 | 108 | 12 | 120 | 1.4096 | 3.0707 | 3.7282 | 0.9916 |
| | % | 27.5 | 17.5 | 2.5 | 52 | 90 | 10 | 100 | | | | |
| Control ⁶ | No. | 4292 | 3675 | 1032 | 5813 | 13342 | 1470 | 14812 | | | | |
| | % | 28.97 | 24.81 | 6.95 | 39.24 | 90.07 | 9.93 | 100 | | | | |

Differences

ABO Blood groups $\chi^2 = 29.26$ d.f. = 3 $P < 0.01$

RH(D) Blood groups $\chi^2 = 0.00$ d.f. = 1 $P > 0.05$

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association with other blood groups. Statistical analysis using χ^2 test showed no significant difference between the distribution of Rh(D) blood group in trichuris infected and control groups. The frequency of Rh(D)⁺ blood group was not higher among patients (90%) compared to controls (90.07%), and the relative D⁺/D⁻ incidence value was not high (0.9916). Murav'eva showed a higher prevalence in blood group A individuals with trichuriasis, but did not report an association between Rh blood group and infection.⁵

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