

Distribution of Blood Groups Among Brahmins and Rajputs of Himachal Pradesh

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INTRODUCTION

Serological markers have served as important indicators for the understanding of genetic variation between and within populations. A1A2BO blood groups have been extensively studied all over the world, providing valuable insight into the dynamics of population structure. The present study reports the distribution of A1A2BO blood groups and Rh(D) factors among the Brahmins and the Rajputs of Kasauli Tehsil, District Solan, Himachal Pradesh.

MATERIALS AND METHODS

A total of 120 blood samples of Brahmins and 107 blood samples of Rajputs were randomly collected from the apparently healthy and unrelated individuals of both sexes and analyzed for A1A2BO and Rh(D) blood groups using standard technique as advocated by Bhasin and Chahal (1998). Gene frequencies were calculated as per the method described by Maurant et al. (1976).

RESULTS AND DISCUSSION

The result of the analysis of blood groups of Brahmins and Rajputs of Kasauli of Himachal Pradesh have been presented in table1.

Table1 shows that the frequency of blood group B is highest (40%) among the Brahmins followed by the frequency of blood group O (24.17%), A1(22.5%), A1B(11.67%), A2(0.83%), and A2B(0.83%). Among the Brahmins frequency of allele O (0.4906) is found to be highest as compared to allele B (0.3106), A1(0.1885), A2 (0.0103). The frequency of D is found to be 92.5% with an allele frequency of D as 0.7261.

Similarly the frequency of blood group B is highest (37.39%) among the Rajputs of Kasauli followed by the frequency of blood group A1(26.17%), O(17.76%), A1B(16.82%), A2(0.93%), and A2B(0.93%) (see Table 1). The frequency of allele O among the Rajputs (0.4151) of Kasauli is found to be highest as compared to allele B (0.3288), A1(0.2438), A2(0.0123). The frequency of D is found to be 95.3% with an allele frequency of D as 0.7838.

The intergroup differences between the two groups under study for A₁A₂BO ($\chi^2=2.6016$) and Rh(D) ($\chi^2=0.7944$) are not found to be statistically significant.

The distribution of allele frequencies of A1A2BO and Rh(D) blood groups of Brahmins and Rajputs of Kasauli of Solan are found to be similar to that observed for various population groups of Western Himalayan region (Bhalla et al.,1980; Bhasin et al.,1992).

Table 1: A1A2BO and Rh(D) phenotypes and the allele frequencies among Brahmins (n=120) and Rajputs (n=107) of Kasauli of Solan District, Himachal Pradesh.

Phenotype	Observed number		Allele frequencies	
	Brahmins	Rajputs	Brahmins	Rajputs
<i>A1A2BO Blood Group</i>				
A1	27(22.5%)	28(26.17%)	ABO*A1=0.1885	ABO*A1=0.2438
A2	1(0.83%)	1(0.93%)	ABO*A2=0.0103	ABO*A2=0.0123
B	48(40%)	40(37.39%)	ABO*B=0.3106	ABO*B=0.3288
O	29(24.17%)	19(17.76%)	ABO*O=0.4906	ABO*O=0.4151
A1B	14(11.67%)	18(16.82%)		
A2B	1(0.83%)	1(0.93%)		
<i>Rhesus Group</i>				
Rh(D)+ve	111(92.5%)	102(95.33%)	D=0.7261	D=0.7838
Rh(D)-ve	9(7.5%)	9(4.67%)	d=0.2739	d=0.2161

KEYWORDS Blood Groups. Brahmins. Rajputs. Kasauli. Himachal Pradesh

ABSTRACT The present paper reports the distribution of A1A2BO and Rh(D) blood groups among the Brahmins and the Rajputs of Kasauli of Solan district, Himachal Pradesh. In both groups the frequency of blood group B is found to be the highest. Frequency of Rh(D) positive among Brahmins and Rajputs is above 90%. Inter-group differences for A1A2BO and Rh(D) blood groups are found to be statistically non-significant.

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