Letters to the Editor

## ABO and Rhesus blood groups in potential blood donors at Durgapur Steel city of the district of Burdwan, West Bengal

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## Sir,

All human populations share the same blood systems, although they differ in the frequencies of specific types. The incidence of ABO and Rhesus (Rh) groups varies very markedly in different parts of the world and in different races.<sup>[1]</sup> This study was conducted to determine the frequency of the ABO and Rh blood groups among potential local blood donors belonging to Durgapur city of West Bengal. The study included 3850 potential blood donors. We observed that the most common blood group was 'O' (34.8%) followed by 'B' (33.6%), 'A' (23.9%), and 'AB' (7.7%). Rh 'D'-positive blood group incidence was 94.7%. The prevalence of the ABO phenotypes linked with Rh 'D' is presented in Figure 1. We observed that the prevalence of individual Rh common antigens were 'D' (94.7%), followed by 'C' (88.4%), 'E' (17.4%), 'd' (5.3%), 'c' (47.9%), and 'e' (98%). The commonest probable genotype among Rh-positive blood group was "R<sup>1</sup>R<sup>1"</sup> (49.4%), the least common being "R<sup>2</sup>r" (0.1%). Among the Rh negative donors, the most prevalent genotype was "rr" (4.3%) [Figure 2].

Few studies of ABO and Rh blood group prevalence among the various populations of India have been carried out. Nanu and Thapliyal reported group 'B' as most predominant in North India.<sup>[2]</sup> Our study was in agreement with the observation of Das *et al.* who conducted a blood group prevalence study among the south Indian.<sup>[3]</sup> On the basis of the number of subjects with ABO blood groups and applying Hardy Weinberg law, we observed that the distribution of allelic frequencies of ABO antigens in our population were 0.17, 0.24, and 0.59 for 'A,' 'B,' and 'O' groups, respectively.<sup>[4]</sup>

The current study had a significant implication in our blood



Figure 1: Prevalence of ABO phenotypes linked with Rh 'D'



Figure 2: Frequency of probable genotypes

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bank inventory and transfusion service. The present study has been conducted in a single center comprising of 3850 donors. Large population and multicentric studies are required to estimate an accurate prevalence of common blood group in West Bengal, in particular, and eastern India, in general. Knowledge of blood group distribution is also important for clinical studies, for reliable geographical information, and for forensic studies in the population.

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