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**Maternal Fetal Health**

**Maternal fetal interaction in the ABO Blood group system: A study on couples with spontaneous abortion**

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**ABSTRACT**

The selective effects on genotypes may generally be perceived by its manifestation in prezygotic and postzygotic stages, which is further extendable to neonatal and postnatal periods in human. Selective elimination of genotypes supposed to be discerned by the study of reproductive performance of the couple on the basis of their mating types. Actual studies on conception, living, or dead (aborted material) of these couples have imperative value to understand process of selective elimination of the alleles. Out of 124 spontaneous abortions occurring during the first 16 weeks of gestation, simultaneous karyotyping and ABO blood grouping of 148 of the parents was carried out. In 80 of the 124 chromosome-analyzed aborted foeti, the ABO blood groups of the foeti were determined by the mixed cell agglutinating reaction in fetal tissue. The results of the ABO blood grouping were compared with that of 100 newborns along with their parents (181) from the same area. Among aborted foeti with normal karyotype, a significantly higher ( $P < 0.05$ ) frequency of ABO incompatibility was found in couple combination in comparison with the couple combination of the parents of the newborns. Furthermore, the distribution ABO blood group alleles of the fetuses deviated significantly from those of newborns ( $P < 0.05$ ) in terms of significantly higher A alleles among the fetus. The ABO incompatibility between the couples is likely to be a risk factor for early spontaneous abortions and also the heterozygote selection of ABO blood group genotypes.