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## Congenital Malformations in Twins: Effect of Chorionicity and Zygosity

Twins suffer a high risk of congenital malformations but the data from our region is scanty. In this study, 133 twin pairs (266 twin babies) were studied and a 3.4% incidence of malformations was seen without gender preference. There was no association of chorionicity and zygosity with the risk for having congenital malformations.

**Keywords:** *Chorionicity, congenital malformations, India, twins, zygosity.*

**T**he incidence of congenital malformations in twins ranges between 2% to 4.6% that is significantly higher than that in singletons(1-4). Monozygotic twins are reported to be more prone for malformations than dizygotic twins(2,5,6).

We conducted this study to determine the pattern of congenital malformations in twins born in our hospital over a 9 month period (January to September 2006). Gross congenital anomalies were recorded within 6 hours of birth by detailed clinical examination in all successively delivered  $\geq 23$  weeks twin babies, whether stillborn or live-born. Radiological and autopsy examinations were carried

out as and where indicated. All live twin babies stayed for 7 days in the NICU/ postnatal ward/ lying-in ward as per the unit protocols. They were examined daily and observed carefully for any fresh signs/symptoms. Zygosity was determined with the help of sex, placental chorionicity and 7 blood group phenotypes(7).

During the study period, 7147 mothers ( $\geq 23$  wk) delivered; of whom there were 133 twin pairs. The rate of twinning was 1 in 53.7 pregnancies. Out of 133 twin placentae, 117 were dichorionic and 16 were monochorionic. Zygosity could be determined in 110 pairs; 81 dizygotic and 29 monozygotic twins(7).

Nine (3.4%) twin babies had congenital anomalies. One pair had acardiac twin (TRAP sequence) which was confirmed on autopsy. A possibility of hydrolethrus syndrome was kept in another baby (cluster of anomalies including gross hydrocephalus, cleft lip/palate and polydactyly). Other malformations seen were duodenal atresia ( $n=1$ ), inguinal hernias ( $n=2$ ) and congenital-talipes-equinovarus ( $n=4$ ). All these 9 malformed babies were live-born, except for the acardiac twin.

The incidence of congenital malformations in female and male twin babies was 3.1% (4/129) and 2.9% (4/136) respectively ( $P=0.07$ ). Malformations were present in 3.1% (1/32) monochorionic and 3.4% (8/234) dichorionic twins, which was

comparable ( $P=0.70$ ). The incidence of congenital anomalies was also comparable between monozygotic and dizygotic twins; 1.7% (1/58) and 3.1% (5/162), respectively ( $P=0.50$ ).

The incidence of congenital anomalies seen in the present series was comparable with the previously published data. The association of congenital malformations with zygosity was not evident in the present series. The limitation of this study was that the data of twins could not be compared with singletons. A large multicentric Indian study may throw more light on this subject.

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