his mother. Though his children show neither of these conditions at present, they will be kept under observation to see if either or both disorders develop in the future.

BARBARA LEPPARD* and H. R. THOMPSON

From St. Mark’s Hospital, City Road, London

* Present address and address for reprints: St John’s Hospital for Diseases of the Skin, Lisle Street, Leicester Square, London, WC2H 7BJ.

REFERENCES


A giant short arm of no. 21 chromosome in mother of 21/21 translocation mongol

Summary. An extreme variation of the short arm of no. 21 chromosome in the mother of a 21/21 translocation mongol is described. The possible relation between the very long short arm of chromosome no. 21 in the mother and a centric fusion type of translocation mongolism in the offspring is discussed.

We recently encountered an interesting family where the mother had an abnormal no. 21 chromosome and the child had a centric fusion type of translocation Down’s syndrome.

Case report

The patient was a 10-year-old boy with the typical features of Down’s syndrome. The mother was 20 and the father was 25 years old at the time of his birth. The mother’s phenotype was entirely normal.

Chromosome studies

The patient’s chromosome analysis showed that he had 46 chromosomes with 21/21 centric fusion type translocation (or isochromosome of no. 21 chromosome). This cytogenetic finding was confirmed by trypsin banding technique (Fig. 1).

The father’s karyotype was normal. The pheno-
Case reports

It is well known that the short arms of the acrocentric chromosomes show great variations in their length. According to Lubs and Ruddle (1970) about 6% of the normal population has an obvious variant of this sort. However, the frequency of very long short arms of the G group chromosome is extremely low (0.04%).

Satellited short arms of the acrocentric chromosomes and the satellite association phenomenon have long been considered as a factor in the causation of nondisjunction and Robertsonian translocations (Ohno et al., 1961, Zellweger, Abbo, and Cuany, 1966; Vamos-Hurwitz et al., 1967). However recent studies done by banding techniques showed no difference in the satellite association frequency of no. 21 chromosome between the parents of trisomy 21 children and their controls (Cooke and Curtis, 1974; Taysi, 1975). Therefore, the relation between the most extreme variation in the short arms of no. 21 chromosome in the mother and the translocation type of trisomy 21 in the child, as in our case, could be the result of chance alone.

E. TUNCBILEK, M. BOBROW, G. CLARKE, AND K. TAYSİ

Hacettepe University, School of Medicine, Department of Pediatrics and Clinical Genetics, Ankara, Turkey; and Department of Medical Genetics, Oxfordshire Area Health Authority, Old Road, Headington, Oxford

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