

## Variability of the Centromeric Index of Group A and Group B Chromosomes in MZ and DZ Twins

**L. Gedda, G. Torrioli-Riggio, L. Romei, L. Silvani**

In the course of routine work in the caryological laboratory at the Mendel Institute, we have often noticed the repetition in families, and especially in MZ twins, of alterations in chromosome morphology that can hardly be included among chromosomal aberrations proper (translocations, deletions, etc.). Since such variations do not generally reflect any pathology in the individuals involved, the occurrence of a normal morphological variability of chromosomes has been postulated.

In order to test this hypothesis, we have measured several clearly defined and standardized chromosomal parameters, obtaining the classical structure of the twin test, i.e., the comparison between experimental measures in MZ and DZ twin pairs.

The parameter that was selected for the test is the centromeric index of Group A and Group B chromosomes, intended as the ratio of long arm length to short arm length. In order to avoid method and operator influences, a pilot test was carried out, repeating five times the culture from blood of the same individual, and having the slides read by five different operators; thus, the variability due to the method and to the operator was assessed.

The pilot test was followed by the actual experimental test, comparing the results obtained within MZ and within DZ pairs. The differences in intrapair variability between pilot test and experimental test have revealed the existence of a genotype-dependent, interindividual variability of the centromeric index.

Prof. L. GEDDA, Istituto di Genetica Medica e Gemellologia Gregorio Mendel, Piazza Galeno 5, 00161 Roma, Italy.