

# The Genetic Conditioning of the Mitotic Index and the Association Index of Acrocentric Chromosomes \*

*A twin study*

**L. Gedda, G. Brenci**

The authors have studied the variations of the mitotic index and the association index of the acrocentric chromosomes (groups D and G) in eight male twin pairs of assorted age (6 and 60 years) and zygosity. For each individual, two subcultures of peripheral blood lymphocytes have been set up by the standard techniques. After colchicine administration and hypotonic shock, two slides per culture have been prepared and stained with lactoacetic orcein, thus providing the experimental material. The study of variability between individuals, between tests and between age groups indicates the importance of the age factor for the assessment of both indexes.

The study of the variability of intrapair differences indicates that the phenomena are both statistically and dynamically genotype-dependent. The weight of heredity, in the sum of all the factors affecting the phenomena, is 0.79 for the mitotic index and 0.51 for the association index.

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