

THE INDIVIDUAL EXCLUSION CHANCE

by V. Sachs *

In my opinion the individual exclusion chance related to a given mother - child - pair is a highly suitable parameter for paternity estimating by blood groups.

- (1) The individual exclusion chance (IEC) for non fathers is defined by the sum of phenotype frequencies of a blood group system leading to the exclusion of non fathers in a given mother-child-pair.
This procedure is continued successively with the respectively remaining frequencies of not excluding phenotypes and all blood group systems being determined. The difference of the last remaining frequency to one is the IEC.
The IEC can be calculated independent of a given presumptive father.
- (2) The following conclusion is plausible: The higher the IEC the greater the probability that a non excluded man is the father. Thus it is also a reasonable conclusion to assume that a non excluded man is the father if the IEC tends to one.
- (3) With respect to the high number of 24-28 blood group systems used for paternity testing especially when HLA is included the parameters of all biostatistical methods converge, as it has been shown by MARTIN et al.(1984). Thus the parameters of the different methods in nearly all cases lead to the same result.
- (4) In contrast to the parameters of other biostatistical methods for paternity estimating. The IEC is simple and understandable also for non mathematicians. The parameters of other methods are not easily intelligible to all.
- (5) In case the IEC does not reach a value in the nearest neighbourhood of one it stands to reason that other parameters are calculated e.g. the paternity index (Pi), the standardized PI, the "W"-value of Essen-Möller or probabilities of error according to Schulte-Mönting and Walter.

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(6) Finally we should take into consideration that biostatistical data can not be given without the risk of error. May be the error is very very small but it exists.

In the individual case that is to be decided in court the error is zero or 100%.