

A Remarkable Case of Affiliation: Exclusion from Paternity
after 8 Years

W. Huckenbeck*, J. Barz*, St. Rand**, W. Bonte* and P. Freudenstein*

* Institute of Forensic Medicine (Dir.:Prof.Dr.W.Bonte)
Heinrich-Heine-University, 4000 Düsseldorf, FRG

** Institute of Forensic Medicine (Dir.:Prof.Dr.B.Brinkmann)
Westf. Wilhelms-University, 4400 Münster, FRG

SUMMARY

We report a case in which a man was excluded from paternity after a period of 8 years. Two exclusion factors were ascertained in the 4th expertise: in Gc-subtyping and F XIIIIB.

Elimination was not possible in the HLA-system.

This case verifies the importance of investigating the "newer" blood group systems in such problematic affairs.

CASUISTIC

While a revised version of the guidelines for paternity testing is under discussion (3,5) - the current regulations were published in 1977 - we report about an affiliation case which verifies the importance of extending basic blood group expertise in problematic cases to the "newer" systems and not to rely only on the HLA-system:

The child was born in 1980. In 1981 the first expert was ordered by the court to examine the three-man-affair.

Although 22 systems were investigated, none of the three possible fathers could be excluded from paternity.

The statistical values for likelihood of paternity (W% for $\log y/x+10$) were low : 57,8 % for the first, 4,5 % for the second and 37,7 % for the third man.

According to Hummel these values can be translated to the verbal predicates :

1st man: "indifferent on the positive side"

2nd man: "paternity very unlikely"

3rd man: "indifferent on the negative side".

The expert advised the court to order a second expert to extend the investigations using the HLA-system.

In 1982 the second expertise (including the HLA-system) was sent to the court. The child received the HLA-markers A 25 - Bw 44 - Cw 4 or A 25 - Bw 35 - Cw 4 from its mother. Therefore the child must have inherited the markers A 3 - Bw 35 or A 3 - Bw 44 from its father. These markers were only present by the first man. The second and the third men could be excluded from paternity. The statistical value (W%) for the paternity of

the first man (including the results of the first expertise) was 99.58% (according to Hummel : " paternity most likely").

The court didn't accept the likelihood of paternity and ordered a third expert to make an anthropological expertise. This expertise was sent to the court in 1985. The anthropological expert arrived at the conclusion : "paternity likely" and advised a re-examination to be taken two years later.

In 1988 the third expert (anthropologist) was ordered to make the re-examination. Before starting the investigation he consulted us about the possibility to complete the serological data.

The factors Lutheran a, Colton b, Gm 3, Gm 21 and Km 3 were investigated on our behalf and we made further examinations in Gc-, PGM₁- and Tf-subtyping (additional I.E.F.) and the Pi-, PGP- and FXIIIB-systems.

We found two excluding constellations. In the child's blood we found Gc 2-1F, in the mother's blood Gc 2. Therefore the marker Gc 1F was to be expected in the real father's blood, but the putative father was Gc 2-1S. In the FXIIIB-system the marker 3 was to be expected from the real father but the putative father possessed only FXIIIB 1.

So after a period of 8 years the 4th expertise excluded the man from paternity in this case.

DISCUSSION

There are a variety of reasons for publishing casuistic relevant paternity cases (1). Although the reported case is not a sensational example the facts of the case show some interesting aspects which should be seriously considered. Firstly it must be clearly emphasized that no reproach should be made against the serological results of the three expertises. The data were correct.

The first expertise was made at a time when the systems which were later additionally investigated were not in the routine use in any serological laboratory. Here an additional investigation incorporating the HLA-system was correctly recommended. This investigation was completed in 1982 and lead to a plausibility of paternity of $W = 99,85 \%$ for one of the putative fathers and to an exclusion of both the others. The statement contained no further recommendations for the court and it was therefore inevitable that the necessary contact between the expert and the court was interrupted. It is known that there are still civil courts which are satisfied with a court decision of "paternity probable" (Hummel's predicate) but in this case the court did not accept this. Because no recommendations for an extension of the serological investigation were given - although new systems were available at this time but not yet recognized (2, 4, 6) - the court decided to take the old-fashioned way and ordered an anthropological examination of the people involved. The third expert obviously did his best, especially within the scope of his limited examination possibilities. His assessment of "paternity likely" gave, after all, only the third highest grade of plausibility of paternity for an anthropological examination. Here a repeat examination of the persons involved was recommended in two years time.

At this point it was now obviously clear that insufficient contact existed between the experts, as specialists in this field, and the court. In 1988 the previously recommended repeat of the anthropological investigation was undertaken. In the meantime many "new" systems, which had not previously been investigated, had become a routine component of a normal paternity case. Luckily the anthropologist referred to us the question of a possible extension of the serological findings. This request could of course be fulfilled and the extended investigation led finally to exclusions in two constellations. These are in our opinion fully conclusive as the systems have been sufficiently and extensively investigated .

The question now arises as to what conclusions can be drawn from this case sample. Firstly it must be underlined that close contact must exist between the experts and the judge and that the expert must be aware that he should function as a "fulfillment-adviser" to the judge, whether the title pleases him or not. The judge should be directed by his recommendations and runs the risk of employing out-of-date methods so long as this expert is not available.

Furthermore, when an example can be taken from the described case, the use of isoelectric focusing with the "newer" systems should be part of the standard repertoire of every serological laboratory and that an extension of the investigations using only the HLA-system does not lead to a solution in every case.

For the future it must be considered that in problem cases DNA-investigations should be carried out by every serological laboratory, whether these investigations have been legally accepted or not, and such an additional investigation should be possible by the laboratory alone or in co-operation with another laboratory.

In this context it is very important that the court is aware that such a possibility exists.

REFERENCES

- 1) *Hummel K.*
Nachweis außerehelicher Abkunft und Ermittlung des wahren Vaters
nach 70 Jahren
Z.Rechtsmed 98:75-79 (1987)
- 2) *Kühnl P.*
Elektrofokussierung in der forensischen Serologie
Arztl Lab 25:38-43 (1979)
- 3) *Neufassung der Richtlinien des Bundesgesundheitsamtes für die
Erstattung von Blutgruppengutachten*
Bundesgesundheitsblatt 20,22:326-331 (1977)
- 4) *Scheil H.G., Driessel A.J., Röhrborn G.*
Distribution of Gc-Subtypes in Western Germany
Z Rechtsmed 84:95-97 (1980)
- 5) *Spielmann W., Kühnl P.*
Das Blutgruppengutachten: Beziehungen zwischen Untersuchungsumfang