

THE SO-CALLED ALCOHOL-BLOOD-SAMPLE IDENTITY EXPERTISE

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Summary

From August 1986 to August 1994 the Institute of Forensic Medicine in Düsseldorf was engaged by courts to prove the identity of blood-ethanol samples in 157 cases. Non-identity was found in 11 cases. In the last years the total number of expertises has been declining but the number of expertises concerning non-identity has remained relatively constant. So in 1994 we found non-identity in every fifth case. This paper reports on the population data of the collective and especially on the efficiency of 'traditional' serological markers used in serological identity examinations.

Results and Discussion

In Germany - in cases of suspected dwi-driving - a blood sample can be taken by order of the police (Huckenbeck et al 1989; Huckenbeck and Schweitzer 1985; Huckenbeck et al 1987). In some cases the defendant asserts that blood samples have been interchanged (Haurich 1981; Henke and Hummelsheim 1985; Henke et al 1990; Huckenbeck and Bonte 1988; Kleiber 1987; Oepen 1986; Oepen and Trautner 1968; Püschel et al 1994). From 1986 - 1994 we were ordered by the court to check 157 identities by reexamination of the 'alcohol blood sample' and comparison to a freshly taken blood sample. Figure 1 shows the chronological development of expertises. There has been a significant decrease from year to year. In contrast the share of female defendants has remained relatively constant. The same phenomenon was observed in the cases of real non-identity (Figure 2). In our total sample (157) 11 cases of non-identity were found (7%) but in 1994 the share was nearly 20% (Figure 3). We found no interchanging of blood samples in the laboratories. In all the cases the non-identity was caused by third persons giving false particulars at the police station. Figure 4 shows the meaningfulness of the markers used in such examinations. Sometimes difficulties occurred because of the age of the 'alcohol blood samples', which are stored up to 2 years.

Figures 5 and 6 presents a comparison between the age distributions among dwi-drivers and defendants claiming non-identity with their blood samples. We found a significant deviation to the elder age groups (identity expertises). The reason is unclarified.

But back to serology: comparing the 11 cases of real non-identity the number of exclusions varies from 2 to 7 (Figure 7). Figure 8 shows the effectiveness of the serological markers used. The most exclusions were found in the Gm, MNSs, PGM₁ and GLO system.

In summary the presented data proves that the so-called conventional serological markers have been a sufficient powerful tool for identity expertises. Nevertheless in 1995 we started to use DNA systems in addition to some established conventional markers (Bär and Kratzer 1989; Henke et al 1990; Roewer et al 1989).

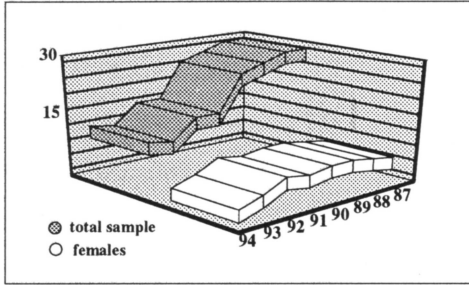


Figure 1 Chronological development of expertises per anno.

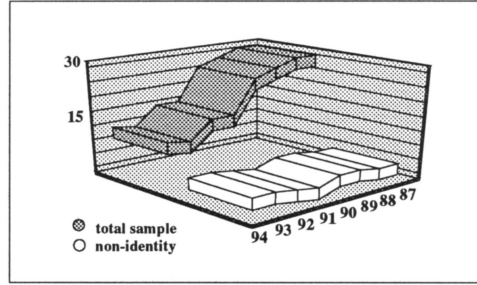


Figure 2 Chronological development of expertises per anno

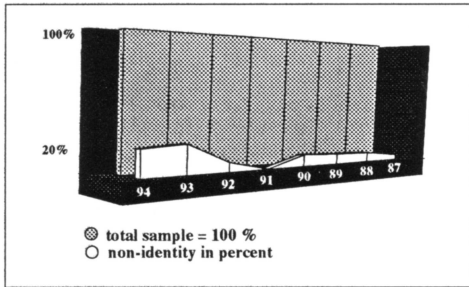


Figure 3 Relative share of non-identity

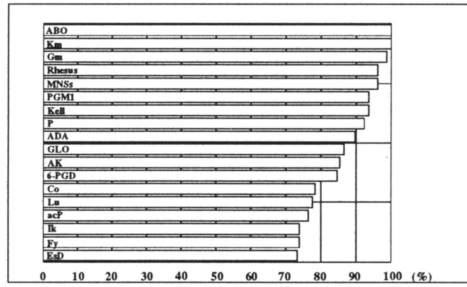


Figure 4 Successful typing of phenotypes in percent (n=157)

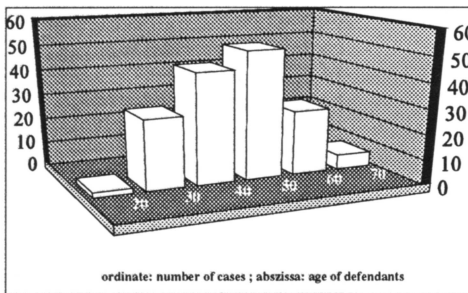


Figure 5 Age distribution (Identity expertises)

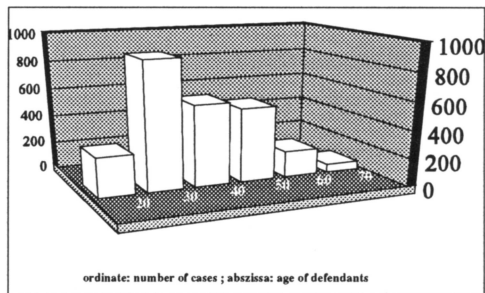


Figure 6 Age distribution (dwt-drivers)

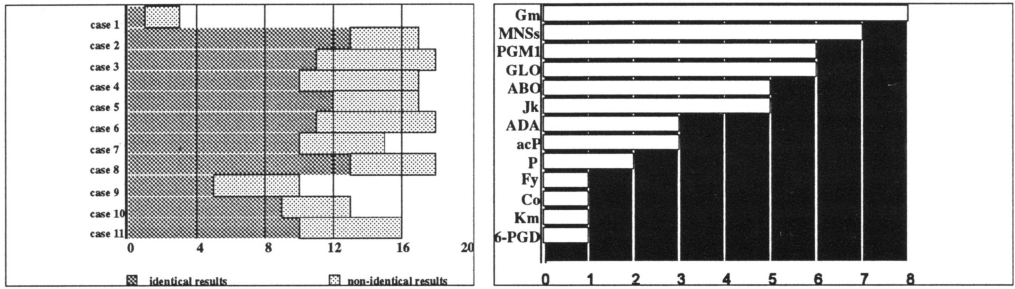


Figure 7 Number of exclusions in 11 cases of non-identity

Figure 8 Number of exclusions found per system

References

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