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CASE REPORT

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German shepherd dog is suspected of sexually abusing a child

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Abstract A rare case of provoked anal penetration of an 11-year-old boy by a male German shepherd dog was confirmed by the results of morphological, serological and molecular genetic investigations. These results were of great importance to refute the suspicion on two adults. Some serious doubts remained in the version of the course of the event as presented by the boy. Some weeks later when confronted by a psychologist, the boy admitted having deliberately stimulated the dog manually and caused the animal to penetrate him.

Key words Sexual child abuse · Dog spermatozoa · DNA typing

Introduction

In recent years the general public has been alarmed by several cases of child abuse and sexually motivated child murders. Therefore, the police reacted immediately in the case of an 11-year-old boy, who was admitted to hospital with fresh anal injuries. The doctors in attendance immediately informed the police, because an anal penetration was obvious. Two male relatives of the boy were suspected.

Case report

An 11-year-old boy was admitted to hospital with fresh anal injuries after having made the emergency call himself. During the initial examination a fresh perianal haematoma and superficial lacerations of the anal mucous membrane were diagnosed and interpreted as being the result of anal penetration (Fig. 1) which was confirmed by the forensic examination.

The boy reported that he was alone at his parents' home playing with several dogs in the yard when he fell down and his posterior was bared. Immediately, the 1-year-old male German shepherd dog mounted and penetrated him with his penis. This event lasted several minutes and was very painful. When he saw the bloodstain in his underwear, he became afraid and called the emergency services.

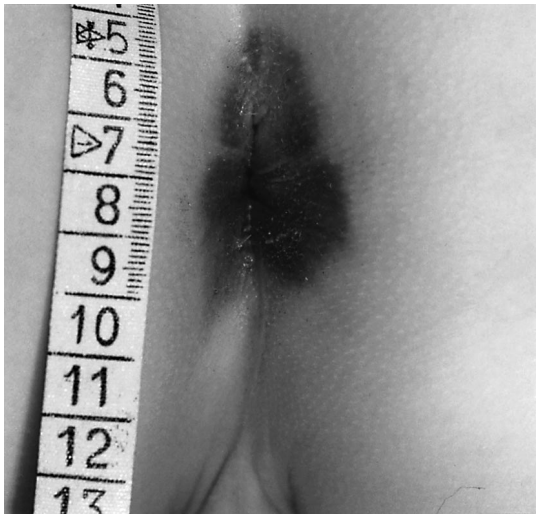

Fig. 1 The rectum of the 11-year-old boy showed a fresh perianal haematoma

Material and methods

Bloodstains were visible in the underwear of the boy in the region of the crotch. The acid phosphatase test, which is a preliminary test for the detection of semen, was carried out on these stains and gave positive results. Two textile pieces (1 cm^2) were cut from the positive regions, incubated in 100 µl bidistilled water and 10 µl were used for the microscopic examination for spermatozoa (HE staining). One of the residual extracts was prepared for DNA analysis after differential lysis to separate the sperm and the blood cells according to Wiegand et al. (1992). For comparison purposes, a semen sample of the suspected German shepherd dog was collected by a veterinary surgeon.

PCR amplification was carried out using the sex-specific amelogenin system according to Manucci et al. (1994) in combination with HumTH01 (Edwards et al. 1991) performing 30 cycles. For further PCR conditions see Wiegand et al. (1993). The PCR products were separated electrophoretically by horizontal non-denaturing PAGE and subsequently visualized by silver staining accord-

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ing to Wiegand et al. (1993). Another textile piece containing a mixture of blood and semen from the underwear of the boy was used for a species determination by cross-over electrophoresis.

Results

Microscopical studies

Both extracts from the underwear were found to contain only a few spermatozoa which were morphologically similar to the ejaculate of the shepherd dog. The microscopic investigation was repeated at the Tierärztliche Hochschule in Hannover (Germany) and confirmed our results that the spermatozoa in the underwear could have originated from a dog.

DNA typing

From the extracted sample from the underpants and the control semen sample from the dog, a single fragment could be amplified in the amelogenin system, which was approximately 4 bp shorter in comparison to the human X-chromosomal fragment (Fig. 2). The TH01 amplification was negative for these samples.

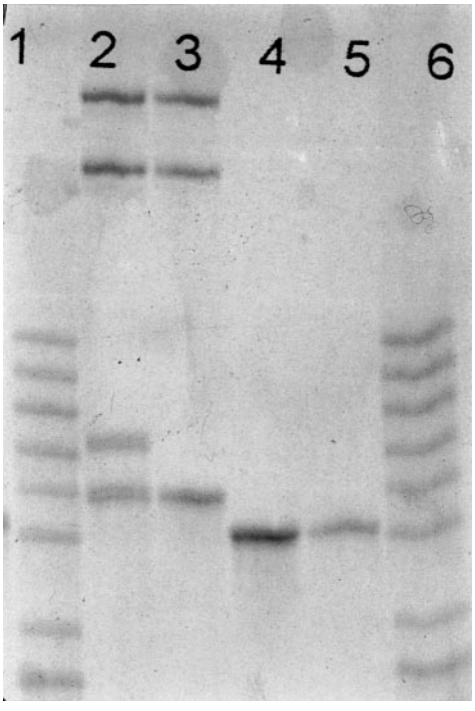

Fig. 2 Coamplification of the PCR systems TH01 and amelogenin. Lanes 1, 6 = CD4 allelic ladder containing alleles 5, 6, 8, 9, 10, 11, 12, 13 (5 bp repeat array); this ladder was used for length estimation of the dog DNA fragment. The human amelogenin products (X chromosomal 106 bp, Y chromosomal 112 bp) correspond to the fragment length range of CD4. Lane 2 = human male DNA. Lane 3 = human female DNA. After differential lysis the amplified sperm DNA extract from the underwear of the boy showed a shorter fragment (lane 5) that corresponds to the fragment of the ejaculate of the dog (lane 4). The TH01 pattern (above the CD4 range) is only detectable in the two human samples (lanes 2, 3)

Species typing using cross-over electrophoresis (done in the Institute of Legal Medicine in Münster, Germany) gave an intensive anti-human signal which could be attributed to the bloodstain in the underwear and a weaker anti-dog signal was found which concurred with the microscopic sperm detection and the DNA typing results.

Discussion

A preferred sexual stimulant of male perpetrators seems to be the digital anal penetration on girls or boys. Vaginal penetration by the penis, however, is rarely performed in sexual assaults (Hobbs and Wynne 1986). Anal injuries are an essential indication for assault (Black et al. 1982) and Zollinger and Sigrist (1994) as well as Oehmichen (1995) have emphasized the problem of interpretation of anal dilatations and the possibility of false diagnoses. An up-to-date and criminological analysis of sexual child abuse was presented by Schneider (1997). In the case of the 11-year-old boy reported here, anal penetration was carried out and the investigations confirmed the penetration of the boy by the German shepherd dog but serious doubts remained on the version of the course of the event. The inquiries and police investigations did not indicate any participation of other adult persons. Only some weeks later when confronted with a psychologist, the boy admitted having deliberately stimulated the dog manually and caused the animal to penetrate him.

At the ISFH conference in Oslo (International Society of Forensic Haemogenetics 1997) R. Reynolds (personal communication) pointed out that a PCR product with a reduced length of 4 base pairs could be found from dog, horse, pig and cattle DNA using primers for sex-typing of human DNA in the highly conserved amelogenin system. These findings are in accordance with our PCR results of the dog DNA.

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