

## DNA PROFILE OBTAINED FROM BURNED VICTIM OF HOMICIDE / SEXUAL ASSAULT

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Female homicide victims are often sexually assaulted before they are killed. Occasionally, the crime is made more heinous when the victim is sexually assaulted after the murder. The present case went one step further when the suspect doused the body with gasoline and set her on fire. He then proceeded to tell someone to call 911 for a "trash fire" behind the building, and watched as the fire department extinguished the blaze and discovered that it was a person on fire.

The body was so badly burned that the only description from the scene was of a person of slight build, possibly a female. At autopsy, head trauma was determined to be the cause of death. Vaginal swabs were taken, even from this badly burned body. A screening test for acid phosphatase was negative, but a microscopic analysis for spermatozoa was done anyway (as allowed for in our protocol). Spermatozoa with tails were found on these swabs. Differential organic extraction of the vaginal swabs was followed by chemiluminescent quantitation of the extracted DNA. The sperm and non-sperm fractions, along with the known samples from victim and suspect, were then amplified using the Applied Biosystems Profiler Plus™ and COfiler™ kits. Analysis of the DNA fragments was performed with the ABI PRISM® 310 Genetic Analyzer using GeneScan® and Genotyper® software. Subsequent data interpretation matched the suspect's DNA profile to the vaginal swab sperm fraction, and the victim's DNA profile to a bloodstain on the suspect's shirt, each matching at amelogenin and the thirteen CODIS core STR loci.

Several unexpected observations were made during this investigation: 1) Spermatozoa with tails were not destroyed in the fire and were collected on the vaginal swabs; 2) the victim's DNA profile was obtained from both a thigh muscle sample and a blood blot on filter paper collected at autopsy; 3) the suspect admitted to committing a similar crime; and 4) photos from the crime scene clearly show two sets of scorch marks on the wall of the building, one from a murder he committed two years previous to the present crime, and the other only a few feet away where he set this victim on fire.