

Case Summary – Restraints

Case Synopsis:

Homicide involving a male victim, his spouse and two male conspirators. Victim was injected with insulin and the victim's legs were tied with a piece of cloth. Victim was transported to a cliff, placed in the driver's seat of the car and sent plunging into a ravine. Suspicions regarding the alleged accident were raised when the legs of the victim were found to be restrained.

Challenge:

There was a significant amount of victim blood that complicated the collection of DNA material. Six DNA collection efforts were made using the cutting method, but no meaningful results were obtained. The cuttings yielded the victim's profile and a few other random minor peaks. The cuttings had been taken from the fabric used to restrain the victim and other areas. The restraint material was a likely place to find perpetrator DNA, but there were no visible stains or indicators other than the areas that were covered in victim blood.

Processing:

The areas of the restraint material that did not have victim blood were processed with the M-Vac wet-vacuum collection system. Approximately 200 mL of sterile surface rinse solution was sprayed down and collected from the fabric. The liquid was then concentrated using a 0.45 micrometer Nalgene filter apparatus. The filter was covered, labeled and set aside using standard chain of custody practices.

Laboratory Processing:

The evidence filter was removed from the filter apparatus and cut into small pieces with a sterile scalpel. The substrate was then processed using a modified Chelex extraction method and quantitated using the Quantifiler Duo assay. The extracted DNA was amplified with Life Technologies AmpF ℓ STR $^{\circledR}$ Identifiler $^{\circledR}$ Plus PCR Amplification Kit.

Results:

A high quality DNA mixture was obtained. DNA analysis resulted in positive identification of the spouse and it brought into question two other male suspects with peaks of 500 rfu. The suspect profiles generated by the M-Vac System were part of the evidence used to gain confessions from the two suspects and from the spouse. The case was concluded.