



B122 DNA Analysis of Pitbull Stomach Contents Following Infant Maiming

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After attending this presentation, attendees will learn that DNA analysis can be applied to child endangerment investigations involving domesticated animals. The case study involves the examination of stomach contents of a pit-bull following the maiming of an infant child.

This presentation will impact the forensic community by providing a heightened awareness of the uses of forensic analysis in child endangerment cases. This investigation also served to heighten awareness in the community of the potential dangers of domestic canines and further work in this area serves to aid the public and legislators in making informed decisions.

According to reports published in 2001, over 300,000 dog-bites occur yearly that require medical attention (Gilchrist et al). Children are

3.2 times more likely to be the victim of a serious dog-bite than adults and breed specific studies indicate that approximately one third of fatal human attacks reported from 1981 through 1992 involved pit bull-type dogs (Sacks et al). With growing regulation concerns regarding breeds that are known for aggression, the forensic laboratory is expected to aid in the analysis of physical evidence in a growing number of cases. This presentation will demonstrate the approach taken in one such case.

A two-month-old female was presented with extensive soft-tissue damage to the left heel after being left unattended for approximately 20 minutes on the living room couch in the company of an immature pit-bull. The result of the attack was an irreversible maiming, and the heel of the child was chewed completely off. The child also sustained numerous scratches and marks to the body and was discovered with injuries on the living room floor.

The canine was euthanized post-assault and stomach contents were collected during dissection. Additionally, samples taken from the snout and muzzle of the dog were collected which were later identified as being consistent with blood using leucomalachite green. Liquid components of the stomach contents were not presumptively positive for blood. Following separation and water washing of stomach content solids, material grossly classified as soft tissue, connective tissue, and/or fatty tissue was recovered from the stomach contents. Water washes were reserved and hair/trace particulates suspended in the wash water were captured onto Whatman#2 qualitative filter paper by microfiltration; the filtered wash water was packaged for storage as were the dried filter papers and particulates. Five tissue samples and material collected from the snout and muzzle underwent DNA extraction and recovered products were quantified using Quantifiler® Human DNA Quantification Kit. Extracts were then subjected to polymerase chain reaction (PCR) analysis and fluorescent detection using the PowerPlex®16 STR system (D3S1358, TH01, D21S11, D18S51, Penta E, D5S818, D13S317, D7S820, D16S539, CSF1PO, Penta D, Amelogenin, vWA, D8S1179, TPOX, and FGA).

A human female DNA profile was obtained from all samples isolated from the stomach contents, two of which were complete 16-locus profiles. The material collected from the snout and muzzle also produced a complete profile, and all data indicates the source of these samples originated from a common female individual. All profiles obtained were suitable for comparison to the victim in this case.

The application of forensic DNA analysis was used to establish the criminal charge of child endangerment. The charge is additionally supported by the presence of what appeared to be marijuana and drug paraphernalia in the home, along with reports that the maternal grandmother left in charge of the child appeared to be under the influence of an intoxicating agent. In addition to supporting criminal charges, investigation of this case has also served to heighten awareness in the community of the potential dangers of domestic canines.

Pitbull Maiming, DNA Analysis, Stomach Contents