K12 The Role of Steroid Abuse in Violent Deaths: A Case Report

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After attending this presentation, attendees will better understand the possible role of steroid substances abuse in violent deaths.

This presentation will impact the forensic community by providing additional support that extreme violence, homicide and suicide can be associated with steroid abuse.

A review of the literature revealed the association between substance abuse and criminal behavior. Anabolic androgenic steroids (AAS) are widely used by athletes to help increase strength and muscle mass. However, these substances can affect central nervous system causing irritability, anger and agitation and other psychiatric symptoms.

Methandriol (17α-methyl-5β-androstan-3α,17β-diol) is a synthetic anabolic steroid that is administered orally or intramuscular to treat androgen deficiency, rare forms of aplastic anemia or to counteract catabolic states, for example after major trauma. Methandriol is also commonly used by body builders to cause an increase of muscle bulk. Together with cardiovascular, endocrine, gastrointestinal and hepatic collateral effects, psychiatric changes can occur during prolonged use or after cessation of this agent. Mania and psychotic symptoms of hallucination, delusion and depression are described in AAS abusers. There is a considerable debate concerning effects of synthetic derivatives of testosterone on aggressive and on criminal behavior with domestic violence, suicide, and homicide.

This report documents a case of homicide-suicide committed by a law enforcement officer with no apparent reason. The perpetrator was a 29-year- old man; he had been employed with police service for nearly ten years. In a recent physician's assessment no psychiatric disorder or illicit drug and alcohol use were reported. He had no criminal record or reported previous instances of violent behavior. He was happily in love with a girl who described him as a mild-mannered, kindly and caring, although he did exhibit mild episodes of depression and anxiety.

He was pursuing body-building activities five year prior to the incident, and his relatives suspected he occasionally used steroids during the last six months prior to the fatal event. While he was working in the police station it is reported that he argued with his police lieutenant for trivial reasons. His colleagues reported his temper shortened incredibly in the following hours and, during the night, he took his service gun and fired against an officer who was sleeping in the same police station, killing him with six gunshot wounds to the head, neck, thorax, and upper extremities. He subsequently killed himself with a gunshot wound to the head.

At autopsy the pathologist observed his height was 190 cm and weight 90 Kg with diffuse and harmonic muscles hypertrophy. A left temporal entrance gunshot wound with central skin defect of 1.4 cm diameter and no adaptable ragged margins was disclosed. Another gunshot wound was ascertained at the right auricle. No more injuries or diseases were found except for mild myocardial hypertrophy and liver steatosis, as correspondent microscopic findings confirmed later. Toxicological examination of post- mortem blood and urine samples were conducted to determine whether death was related to illicit substance's abuse. The analytical procedures consisted of immunoassays and gas chromatographic methods, utilizing mass spectrometry detection (GC-MS).

A concentration of 3.4 ng/ml of Methandriol was detected in femoral blood as well as metabolites in urine with a concentration of 5.2 ng/ml. Blood alcohol concentration was determined to be 0.4 g/L and no alcohol was detected in the urine.

Although is not possible to exclude unknown problems with the victim, and his relatives or working history, autopsy findings and officer's toxicological analysis performed with GC-MS suggests that Methandriol abuse represented the principal etiology of the officer's violence, culminated in this tragic episode of homicide-suicide. This case confirms the possible role of steroid abuse in violent behavior.

Methandriol, Steroid Abuse, Homicide

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