Annals of Case Reports
Jullien M, et al. Ann Case Rep: 10: 102349
www.doi.org/10.29011/2574-7754.102349
www.gavinpublishers.com

OPEN ACCESS

GAVIN PUBLISHERS

Case Report

Violent Suicide Attempt Associated With Testosterone and Trenbolone Injection: A Case Report

Jullien M[1], Benachir N[1], Philippe Courtet[1,2], Nobile Benedicte[1,2*]

[1]Department of Emergency Psychiatry and Acute Care, Lapeyronie Hospital CHU Montpellier, France

[2]IGF, Univ. Montpellier, CNRS, INSERM, Montpellier, France

***Corresponding Author:** Benedicte Nobile, IGF Hôpital La Colombière 39, avenue Charles Flahault, BP 34493 34093 Montpellier cedex 5, France

Citation: Jullien M, Benachir N, Courtet P, Benedicte N (2025). Violent Suicide Attempt Associated With Testosterone and Trenbolone Injection: A Case Report. Ann Case Report. 10: 2349. DOI:10.29011/2574-7754.102349

Received: 16 June 2025; **Accepted**: 21 July 2025; **Published**: 23 July 2025

Abstract

Background: Testosterone and trenbolone are anabolic androgenic steroids (AAS) frequently misused by athletes to increase muscle mass and enhance physical performance. Growing evidence suggests a link between AAS misuse and increased impulsivity, which may elevate the risk of suicidal behavior. This case report describes a violent suicide attempt associated with repeated use of testosterone and trenbolone. **Case Presentation:** A 42-year-old man with no prior history of suicidal behavior was admitted to the Department of Psychiatric Emergency and Acute Care in Montpellier, France, in June 2024, following a violent suicide attempt by cervicotomy. The attempt occurred five months after the initiation of intramuscular testosterone and trenbolone, which he began following two months of daily oral testosterone use. Psychiatric evaluation revealed multiple comorbidities, including major depressive episode, borderline personality disorder, attention-deficit/hyperactivity disorder (ADHD), and generalized anxiety disorder. Daily cannabis use was also reported. The patient displayed high impulsivity and aggression, which were exacerbated during the period of AAS use. **Conclusions:** This case highlights the potential role of AAS in amplifying emotional dysregulation and suicidal risk, particularly in individuals with preexisting psychiatric vulnerabilities. It underscores the need for early identification and screening of AAS misuse in at-risk populations, and for greater awareness among clinicians and athletes regarding the associated psychiatric risks.

Keywords: Anabolic Androgenic Steroids; Suicide Attempt; Impulsivity; Testosterone; Trenbolone.

Introduction

Since the 1950s, the use of anabolic androgenic steroid hormones (AAS) has spread among the male population worldwide [1]. Today, this practice represents a significant public health concern, with an estimated 2.9 to 4.0 million users in the United States alone [2]. Initially restricted to elite athletes seeking to enhance performance, AAS use has since become common among recreational athletes aiming for physical improvement [2]. In addition to their well-known physical and psychological effects—such as increased risk-taking behaviors and heightened aggression—the addictive potential of AAS is notable, with an estimated 32.5% of users developing dependence. This underlines the importance of evaluating their negative impacts to raise awareness among the general public and healthcare providers [2].

Testosterone is the primary male sex hormone, though it is also present in smaller amounts in women. It plays a vital role in male sexual development, reproduction, brain function, and social behavior, particularly in initiating actions aimed at defending social status [3]. Trenbolone, a derivative of nandrolone, shares

a structural similarity with testosterone. While it is believed to have milder androgenic effects and therefore fewer side effects [4], trenbolone is not approved for human use. Despite its effectiveness in increasing muscle mass, it is commonly associated with increased aggression—its most frequently reported side effect [4]. Other performance-enhancing substances used by athletes include growth hormone (GH), insulin-like growth factor 1 (IGF-1), erythropoietin, and insulin [5].

Numerous studies have demonstrated the effects of AAS on impulsive behavior, the development of psychiatric disorders, and the risk of suicide attempts. Major psychiatric side effects such as manic, depressive, and psychotic symptoms have been associated with AAS use [6]. Furthermore, AAS are known to increase impulsivity. The term "steroid rage" refers to the heightened irritability and unprovoked aggression linked to AAS use. Animal studies have examined the psychological impact of testosterone administration in rats [7]. In one such model, the go/no-go ratio—a test used to assess self-control and decision-making—was significantly increased in rats with higher plasma testosterone levels, indicating greater impulsivity and impaired decision-making. Human studies have also found a positive correlation between AAS use and aggression, risk-taking behavior, and anger management issues [8].

Taken together, these findings raise concerns about an increased risk of suicide in individuals who misuse AAS. Here, we present the case of an adult male who attempted suicide for the first time and in a violent manner following several months of AAS use. The aim of this report is to alert clinicians and emphasize the need for preventive screening related to AAS use.

Case Presentation

A 42-year-old man was admitted to the Department of Psychiatric Emergency and Acute Care in Montpellier, France, in June 2024, following a violent suicide attempt via cervicotomy. He required urgent surgical and intensive care. At the time of admission, the patient was in the process of opening a new restaurant and was experiencing financial stress in anticipation of the summer season. Despite a recent breakup with a short term partner, he had strong family support. He reported no history of previous suicide attempt or psychiatric hospitalizations, though he had intermittently consulted psychiatrists and psychologists for mild depressive episodes in 2015, 2017, and 2018. He had never received pharmacological treatment for these episodes.

The patient smoked approximately one pack of cigarettes per day and used cannabis daily (about five joints per day). He had a history of alcohol use disorder between 2017 and 2022, which he self-managed and discontinued. He also reported past cocaine use but had not used the substance in over a year.

Investigations

Psychiatric comorbidities

During the first hospitalization, psychiatric assessments were conducted by a psychiatry resident and a senior psychiatrist. The Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders 5 (SCID) revealed the presence of major depressive episode (MDE), attention deficit hyperactivity disorder (ADHD), generalized anxiety disorder (GAD), and borderline personality disorder (BPD). Impulsivity was prominently noted during clinical evaluation.

Suicidal ideation and depression assessments

Suicidal ideation was assessed using the Columbia Suicide Severity Rating Scale (C-SSRS), scoring 21. Depressive symptoms were rated as moderate, with a score of 22/60 on the Montgomery–Åsberg Depression Rating Scale (MADRS). The patient was discharged after 7 days and received outpatient follow-up.

Testosterone and Trenbolone Use

In December 2023, the patient began using testosterone tablets for muscle enhancement—three tablets per day, obtained on the black market. From February 2024, he started self-administering weekly intramuscular injections of one milligram of trenbolone and one milligram of testosterone, in addition to the daily oral testosterone. Some weekly doses were missed. The injections were stopped a few days before his first hospitalization. The patient explained that he began taking testosterone and trenbolone by mimicking peers at the gym. He had ordered prepackaged injection kits from the Dark Web for a three-month course. He quickly observed and appreciated the resulting physical changes. He never increased the dosage, and missing some doses had no apparent impact.

Differential Diagnosis

Daily cannabis use over several years could confound the causal relationship between AAS use and the observed psychiatric symptoms.

Treatment

Treatment with fluoxetine (20 mg/day, a selective serotonin reuptake inhibitor) and quetiapine (100 mg/day, a mood-stabilizing antipsychotic) was initiated. In addition, safety planning was carried out by a nurse specialized in the care of suicidal patients to help prevent future crises. He was followed up in outpatient consultations.

Outcome and follow-up

Three weeks after discharge, the patient was readmitted due to a resurgence of suicidal ideation involving a firearm. During this second hospitalization, a diagnosis of MDE and high current

suicidality with imminent risk was made. His C-SSRS score was 14, and the MADRS score was 43/60, indicating severe depressive symptoms.

As a result, quetiapine was increased to 300 mg/day, fluoxetine was discontinued, and extended-release lithium (initially 400 mg/day) was introduced. He was discharged after 5 days. The patient met with the addiction team but declined cannabis cessation or reduction.

In the 15 days following discharge, no behavioral disturbances were observed. Suicidal thoughts persisted intermittently but were manageable. After this period, increased aggression was noted by both the psychiatrist and the patient's family, particularly in response to stressors such as his restaurant and relationship difficulties. Despite this, his mood did not improve. He declined inpatient treatment in a private clinic due to professional obligations.

In October, two months post-discharge, there was still no mood improvement, prompting initiation of venlafaxine (a serotonin-norepinephrine reuptake inhibitor; dosage unknown). Cannabis use continued, leading to a prescription for buspirone. Both treatments were rapidly discontinued due to sedative and gastrointestinal side effects.

Four months after his second hospitalization, the patient had not attempted suicide again. Suicidal thoughts gradually diminished, and no recurrence of testosterone or trenbolone misuse was reported.

Discussion

The misuse of AAS-particularly testosterone and trenbolone-is well documented for its harmful neuropsychiatric effects. This case illustrates how supraphysiological doses can increase aggression and impulsivity, leading to a violent suicide attempt.

These traits are not merely consequences of AAS use, they are central to the patient's psychopathology and interact with comorbid conditions. Borderline personality disorder is marked by emotional dysregulation, impulsivity, and a propensity for self-destructive behaviors, including substance use and suicidal actions [9]. ADHD, often associated with impaired impulse control and sensation-seeking behavior, amplifies this vulnerability [10]. Problematic cannabis use contributes to this dynamic. On one hand, poor impulse control promotes excessive substance use; on the other, chronic cannabis use further disrupts executive functioning and emotional regulation, compounding the impulsivity.

A plausible mechanism to explain association between AAS use and suicide risk involves excessive activation of androgen receptors, which are densely located in brain regions that govern emotion and cognition. Functional Magnetic Resonance Imaging (MRI) studies have shown reduced resting state connectivity in these networks, suggesting impaired regulation [11]. Some studies have also proposed a role for altered estrogen receptor expression in these regions particularly the hypothalamus, basal ganglia, amygdala, and hippocampus which are critical to aggression control and highly susceptible to AAS-induced damage [12]. These brain regions form a neurochemical integration network involving neurotransmitters and neuropeptides that significantly affect aggressive and suicidal behavior [12].

This case underscores the need for heightened clinical vigilance when treating emotionally dysregulated patients, particularly those at risk of substance misuse. It also highlights the importance of raising awareness among both elite and recreational athletes as well as primary care providers to support prevention and early identification of AAS misuse.

This case highlights the potentially severe consequences of testosterone and trenbolone abuse on emotional regulation and suicidal behavior. It underscores the urgent need for systematic AAS screening in vulnerable populations and for proactive education about associated risks, especially in athletic communities.

Competing Interests: None of the authors declare conflict of interests related to this manuscript.

Funding: None.

Acknowledgements: None.

Data Availability Statement: Due to ethical and legal restrictions, data involving clinical participants cannot be made publicly available.

Ethics Committee Agreement Number: 2025-05-527

References

1. Kaufman MJ, Janes AC, Hudson JI, Brennan BP, Kanayama G, et al. (2015) Brain and Cognition Abnormalities in Long-Term Anabolic-Androgenic Steroid Users. Drug and Alcohol Dependence. 152: 47-56.
2. Pope HG, Wood RI, Rogol A, Nyberg F, Bowers L, et al. (2014) Adverse Health Consequences of Performance-Enhancing Drugs: An Endocrine Society Scientific Statement. Endocrine Reviews. 35: 341-375.
3. Zitzmann M. (2025) Testosterone, mood, behaviour and quality of life.
4. Borecki R, Byczkiewicz P, Słowikowska-Hilczer J. (2024) Impact of trenbolone on selected organs. Endokrynologia Polska. 75: 267-278.
5. García-Arnés J A, García-Casares N. (2023) Doping and sports endocrinology: growth hormone, IGF-1, insulin, and erythropoietin. Revista Clínica Española. 223: 181-187.
6. Chegeni R, Pallesen S, McVeigh J, Sagoe D. (2021) Anabolic-androgenic steroid administration increases self-reported aggression in healthy males: a systematic review and meta-analysis of experimental studies. Psychopharmacology. 238: 1911-1922.

7. Agrawal J, Ludwig B, Roy B, Dwivedi Y. (2019) Chronic Testosterone Increases Impulsivity and Influences the Transcriptional Activity of the Alpha-2A Adrenergic Receptor Signaling Pathway in Rat Brain. Molecular Neurobiology. 56: 4061-4071.

8. Nelson BS, Hildebrandt T, Wallisch P. (2022) Anabolic–androgenic steroid use is associated with psychopathy, risk-taking, anger, and physical problems. Scientific Reports. 12: 9133.

9. Paris J. (2019) Suicidality in Borderline Personality Disorder. Medicina. 55: 223.

10. Franczak Ł, Podwalski P, Wysocki P, Dawidowski B, Jędrzejewski A, et al. (2024) Impulsivity in ADHD and Borderline Personality Disorder: A Systematic Review of Gray and White Matter Variations. Journal of Clinical Medicine. 13: 6906.

11. Westlye LT, Kaufmann T, Alnæs D, Hullstein IR, Bjørnebekk A. (2016) Brain connectivity aberrations in anabolic-androgenic steroid users. NeuroImage Clinical. 13: 62-69.

12. Bertozzi G, Sessa F, Albano GD, Sani G, Maglietta F, et al. (2018) The Role of Anabolic Androgenic Steroids in Disruption of the Physiological Function in Discrete Areas of the Central Nervous System. Molecular Neurobiology. 55: 5548-5556.