

Case Report

Addiction to Autoerotic Asphyxia: A Case-Report

Aurely Ameller^{1,2*}, Yann Le Strat^{1,2,3}, Marion Cadranel¹, Celine Portalier¹, Caroline Dubertret^{1,2,3}

¹Centre Hospitalier Universitaire de Colombes (CHU Colombes), Hôpital Louis Mourier, France

²Center of Psychiatry and Neurosciences, France

³Univ Paris Diderot, Faculté de médecine Bichat-Lariboisière, France

***Corresponding author**

Aurely Ameller, Centre Hospitalier Universitaire de Colombes, Hôpital Louis Mourier, Service de Psychiatrie, 178 rue des renouillers, 92700 Colombes, France, Tel : 0147606409; Fax : 0147606740; Email: aurely.ameller@aphp.fr

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- Self-strangulation
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Abstract

Background: DSM-5 mentions autoerotic asphyxia in the paraphilic disorders section, as a specifier for the diagnostic of sexual masochism disorder, "if the individual engages in the practice of achieving sexual arousal related to restriction of breathing".

Strangulation activities have also been observed in the "choking game", defined as "self-strangulation or strangulation by another person with the hands or a noose to achieve a brief euphoric state caused by cerebral hypoxia". The term "strangulation activity" is considered as more appropriate than "choking game". While sharing a same behaviour, autoerotic asphyxia and non auto-erotic strangulation activities might represent a very distinct pattern of disorders.

Case description: We report the case of a 25 years old male student practicing manually self-strangulation up to 40 times a day since adolescence. He has a concomitant history of both ketamine and cannabis use disorders, and reports urges to self-strangulate, sometimes specifically avoiding contact with friends to do it. He reports never really tried to stop this behavior. Neuropsychological assessment found a cognitive functioning below the level expected given his educational level. Our intervention consists on a 3-weeks cognitive and motivational therapy program in addiction unit. This intervention was associated with abstinence.

Conclusions: Autoerotic asphyxia is a behaviour observed not only in the context of sexual masochism disorder, but also as a specific behavioral addiction to self-strangulation in absence of sexual arousal.

INTRODUCTION

DSM-5 mentions autoerotic asphyxia in the paraphilic disorders section, as a specifier for the diagnostic of sexual masochism disorder, "if the individual engages in the practice of achieving sexual arousal related to restriction of breathing" [1-3]. Autoerotic asphyxia (AEA) is described as the seek for hypoxia in order to increase sexual excitement [4]. AEA has been described as a paraphilic disorder with a high risk of death [5-7] especially when practice alone [8,9]. There are dramatic consequences of these games practicing in the early adolescence as a passage rite [10] among children. These behaviors are colloquially called the "choking game", but the term "strangulation activity" is considered as more appropriate [2]. The age at onset ranges between 9 to 13 years old in USA [11,12]. US governmental prevention action plan has been developed as well as death children's parents associations [9,13,14]. Moreover, there is a trend to propose guidelines to prevent these injuries [14]. One crucial point is that children playing the choking game

report they are unaware of a plausible death as a result of their immaturity.

AEA has also been considered as an addiction by some [15,16]. AEA induces an altered state of consciousness similar to that observed in some substance use [17]. People practicing AEA tend to develop a tolerance and to increase the time spend to do it [16].

We report the case of a young man practicing self-strangulation (self-induced hypoxia) and discuss the practice of self-strangulation in the context of sexual masochism disorder, but also as a specific addiction to self-strangulation in absence of sexual arousal.

CASE REPORT

Mr. B is a 25 years old student with Master Degree, living with his father. In his history, we note a referral to a child psychiatrist in the consequences of his parent's divorce at the age of 4 years

old, and a subsequent follow-up between 10 and 13 years old. He first stayed to his mother home and went to his father place at the age of 18. The neurodevelopment was normal. His father reports a history of cannabis addiction and other substance use (cocaine, heroine, alcohol).

At the age of 14 years old, he experienced a first strangulation activity using a scarf with friends at school. After a short period of time experiencing with friends, he started strangulating himself, pressuring his both fists on its carotid arteries. He described pleasant feeling of narcosis and transient amnesia at the beginning of this behavior, as well as transient hypoacusia and distortion of vision. These phenomena tend to decrease with time, only the relaxing effect of self-strangulation remaining.

Mr. B started smoking marijuana occasionally at the age of 14 years old, and developed a daily use with dependence DSM-5 criteria from 18 to 23 years old. He also fulfilled criteria for ketamine light addiction, with a debut at 17 years old.

At the time of clinical evaluation, he was self-strangulating up to 40 times a day, only when alone, and describes no sexual arousal. He reports spending more time he wants when he begins to practice. Mr. B described urges to self-strangulate, sometimes specifically avoiding contact with friends to practice self-strangulation. He reported never really tried to stop this behavior before hospital admission, despite thinking that it would be better for his health.

Clinical examination did not find any paraphilic disorder associated with this behavior, or any Axis I disorder. Mr. B has no sexual impairment and was involved in a heterosexual relationship since 3 years. MRI scanner and usual blood tests were normal.

Mr. B described unrealistic goals in its personal life, a lack of emotion and haughty attitudes tending to intellectualize his conduct as a defense mechanism. The hospitalization happened at a moment he faced difficulties to constraints of this internship. Neuropsychological evaluation found a global IQ (assessed by the Wechsler Adult Intelligence Scale third edition) within the normal range (103) but below what was expected from his educational level. The verbal fluencies were in the average (phonemic: percentile 50, semantic: percentile 25-50), again lower than expected from his educational level. Episodic memory (Grober & Buschke procedure) has shown learning and retrieval disabilities suggesting a frontal learning impairment ($Z = -2$ in the second free recall, $Z = -3.9$ to delayed free recall). Encoding was in the lower limit of normal ($Z = -1.6$). However, non verbal episodic memory was intact (Rey complex figure test). Using Trail-Making test (part A and B, percentile 5-10 for B-A time) and TEA/TAP (Flexibility Tests, Zimmerman and Fimm, with 9 answers wrong and 4 aberrant responses) executive functions were deficient in flexibility with a low index of speed-accuracy trade-off (centile 4) which shows that emphasizes speed in spite of the quality of the response. The attention assessment showed impulsivity and a deficient reaction time (Attention Evaluation Tests, Zimmerman and Fimm, percentile 5 with 6 early responses in the condition with alarm). Overall, neuropsychological assessment supports a cognitive functioning within the normal range.

A 3 weeks hospitalization in an addiction ward was started.

Treatment was based on cognitivo-therapy modified for self-strangulation, Mr B stopped self-strangulation behaviors.

DISCUSSION

The physiopathology of AEA is the deprivation of oxygen towards the central nervous system leading to a rapid dysregulation of the central inhibitory mechanisms that control sexual activity. It results an increased of the senses associated to some erotic hallucinations [18,19]. In Mr. B case, while the pleasure induced by hypoxia is present, no other criteria for sexual masochism disorder or any other paraphilic behaviors were reported or observed during the hospitalization. Moreover, Mr. B was engaged in a long lasting relationship with no disturbance of his sexual performance. Hazelwood has previously described 5 criterion to attribute the death to AEA in front of an accidental death by asphyxia [18,19]: - evidence of physiological mechanism for obtaining or enhancing sexual arousal and dependent on either a self-rescue mechanism or the victim's judgment to discontinue its effect; - evidence of solo sexual activity; - evidence of sexual fantasy aids; - evidence of prior dangerous autoerotic practice; - no apparent suicidal intent. A lot of AEA work has been done by forensic scientists after death, especially because AEA is generally a secrete practice. All death is reported to men, with a mean age of 37 years old [20] and in many times the death scene presents sexual staging [6]. These studies also reported that paraphilia is often associated to other paraphilia with a poverty of engagement in affective relationship and that substances are often used on the death scene to raise sexual pleasure [20]. Mr B. has begun its first strangulation activity at school before any sexual pleasure seeking behavior.

There is an increase in the prevalence of strangulation activity and to use ligature to strangulate (15). Up to 58% of children interviewed practiced this activity everyday [20]. This is the case of Mr. B: as we described, the practice begins first in group at school and then alone, at home up to 40 times a day, always with his hands.

Initially, people practicing self-strangulation were initially described as good at school and doing sports, but studies showed that substance abuse are significantly associated to the practice [11-13,16] permitting being "high without a drug". These children might not have possibility to find a substance or alcohol to abuse, so they move towards strangulation. Moreover, Risk conducts are defined in 4 steps [15]: risk taken, high sensation seeking, loss of consciousness (as in drunkenness) and awakening-survival. These steps are risk factors to present further addiction or strangulation activity.

Cerebral hypoxia resulting from strangulation is associated with a brief euphoria (a "high" feeling) before loss of consciousness. The sensations are perceived as pleasurable and tend to promote the behavior, reinforcing the repetition of these behaviors. In adolescence, the maturation of the brain structures (particularly the frontostriatal circuitry) could modify the balance between novelty seeking, experimental drug use, making decisions towards risky behavior, sensitivity to reward and subsequent impulsive choices [17]. Sensitivity to novelty could represent an adaptative behavior given to Prefrontal Cortex as promoting exploration of the environment. Furthermore,

immaturity of cerebral structures mediating perception, risk evaluation and reward could promote more risky experiences in peer groups that permit the construct of a self-regulation through cerebral maturation. Furthermore, peers play a crucial role: adolescents forget risks more when encouraged by peers [17]. The counterpart of these risky conducts is to expose adolescent to potential addiction development [17]. AEA is a behaviour observed not only in the context of sexual masochism disorder (including ritualistic bindings, pornography scenes and sometimes a way to escape from binding), but might also represent a specific addiction to self-strangulation in absence of sexual arousal. These two different conducts actually not distinguishing in DSM-5, could be better described. First, a paraphilia (AEA) that could be associated to a sexual addiction or even reach criteria to sexual addiction diagnoses by itself. The paraphilia occurs in late adolescent and male adults specifically and includes ritualistic bindings, pornography scenes and a way to escape from binding. Second, the strangulation or self-strangulation developed during adolescent could reach addiction without substance criteria, as our clinical case shown with – increase of time spend to practice AEA –often been preoccupied with AEA –often practicing AEA when feeling distress – craving to practice. However, DSM 5 doesn't individualize behavioral addiction except pathological gambling. This case permits to better understand clinical perspectives that do not fit international classification but are still important to understand because of the possible dramatic consequences of this behavior. Future case reports on this pathology could benefit from a SPECT-scan imagery to highlight cerebral abnormalities with regard to two different processes. First, it could objective plausible preexisting abnormalities as potential risk factors to develop the disease. In the other hand, SPECT-scan could show infra-clinical cerebral abnormalities from repeated transitory oxygenation defects that could not be detected in MRI.

CONCLUSION

This case illustrates the unrecognized issue of a novel behavioral addiction in a patient with multiple substances use. It sheds light on the important to question risk conducts and especially strangulation and self-strangulation in patients with substance abuse and in adolescent in general, in order to prevent fatal injuries.

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