

A singular case of asphyxia by choking on a handkerchief: accidental event or suicide to “shut-up” spirits

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Abstract

Choking in adults can prove fatal, despite resuscitation attempts. The manner of death can be natural, homicide or accident. When a death is due to choking, one must consider what conditions contributed to or predisposed the person to choking (eg. alcohol, drugs and physical and mental impairments). Homicidal deaths by choking are relatively uncommon, being more frequently accidental. The diagnosis of death by choking is made at autopsy when the airway is found occluded. If the individual had an occluded airway and the object or food was removed during resuscitation, the only way to make the diagnosis would be on the history. Here, we present a case of asphyxia (accidental or suicidal) by choking on a handkerchief in a patient with a long history of schizophrenia. The woman had attempted a previous suicide driven by evil spirits coming from inside her body, especially from the head and throat; in order to “shut-up” the spirit, she was trying to suffocate it with her hands or by a belt from her pants. *Clin Ter 2017; 168(5):e293-296 doi: 10.7417/CT.2017.2023*

Key words: asphyxia, psychotic disorder, choking, suicide

Introduction

Suicide now accounts for 3% among causes of death in the world’s population, the SUPRE Project (Suicide Prevention Project - OMS) estimates that from 1950 to 1995 the percentage of deaths by suicide increased globally by 60%, and is still growing especially among the younger age groups (1).

In Italy every year there are between 3,500 and 4,000 suicides (2); most of these are committed by patients with psychiatric disorders.

According to World Health Organization (WHO) estimates reported in the first global report on suicide prevention “Preventing suicide: A Global Imperative”, in 2012 about 800,000 people in the world took their own lives. In 2014 the number grew consistently, according to a WHO update report (WHO, Preventing suicide. A Global Imperative, 2014).

The numbers tend to rise if a psycho-pathological state is associated with the abuse of substances such as alcohol and

drugs. The psychiatric disorders particularly at risk include schizophrenia; the studies by Meltzer HY and Caldwell estimated that 50% of these subjects will attempt suicide during their lifetime and that 9-13% will actually commit suicide (3-4).

These subjects, in addition, are inclined to use violent methods that ensure that the act is lethal, thus bringing about the death of the subject in most cases (5-6).

Individuals with schizophrenia have many impaired basic functions, including the way they perceive and think, language, emotions, will, initiative, attention. The impairment is likely to lead to serious problems of adaptation in social or occupational functions and to influence their decision-making capacity, pushing them to take extreme acts.

According to the literature, a percentage ranging between 10% and 13% of schizophrenics die as a result of suicide; in this context, suicide can also be interpreted as a remedy to put an end to the suffering caused by social isolation (7). It has been observed that 50% of those who die of suicide were suffering from severe depression and among these, the risk is seven times greater than the general population (8-9).

Severe psychotic symptoms such as delusions or hallucinations and pathological personality traits such as impulsiveness and excessive suspiciousness (10) are additional factors that can determine an increase in the number of suicide attempts and in fatal outcomes. Pharmacological variables, too, such as treatment with conventional antipsychotics, correlated with a greater presence of extrapyramidal side effects, particularly akathisia, have been investigated as possible risk factors for the implementation of self-injury behavior (11-12-13). A recent study (14) has analyzed the possible association between some clinical variables, drugs, and the presence of lifetime suicidal acts in a sample of patients with schizophrenia or a schizoaffective disorder. The group was comprised of patients who had attempted suicide in their lifetime, compared to another group that showed a higher rate of nicotine dependence (chi-square = 3.900, df = 1, p <0.05, odds ratio (OR) = 3.4). Results showed more likelihood of occurrence or experiencing a major depressive episode (chi-square = 10.258, df = 1, p <0.002, OR = 6.5), in those with a duration of untreated psychosis (DUP)

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greater than or equal to one year (chi-square = to 6.228, $df = 1$, $p < 0.02$, $OR = 12.5$), or who were taking typical antipsychotics (chi-square = 3.979, $df = 1$, $p < 0.05$, $OR = 6.5$). Studies of schizophrenic patients have displayed high occurrences of suicide or suicide attempts, and in particular in the study by Nordentoft, with a follow-up period of one year of first-episode psychotic patients, it was found that 11% had attempted suicide. The major predictors of suicides conducted during the period of the follow-up included the presence of hallucinations and a history of suicide attempts (15-16-17-18-19-20).

Suicide by choking is far more rare. The case presented appears remarkable in view of the way it was committed by the victim, the reasons why she attempted suicide and doubts about the nature of the act (suicide or accidental).

Case report

In January of 2010, in the city of Matera, the caregiver of a woman in her sixties suffering from psychiatric problems (residual chronic schizophrenic psychosis in partially effective neuroleptic treatment), woke up hearing the lady coughing loudly and persistently, in the kitchen. When she got there the caregiver found the lady sitting on a couch, coughing violently, with her hands around her neck. The woman was trying to explain to the caregiver that she had a handkerchief in her throat.

The caregiver woke up the husband, who attempted to pull the paper handkerchief out of her throat, and the emergency medical service was called. Despite relief the woman died of suffocation produced by the handkerchief she had forced down the pharynx.

The victim had a longstanding history of psychiatric illness ("residual chronic schizophrenic psychosis in partially effective neuroleptic treatment"). She had been treated at the Mental Health Center and prescribed pharmacological treatment with Clozapine 300 mg (3 tablet x 100 mg) and Lorazepam 10 mg (4 tablets tablet x 2.5 mg). The patient had been under investigation by prosecutors for fraud for selling her services as a "sorceress". The son reported previous suicide attempts made by his mother, even in his presence, driven by evil spirits coming from inside her body, especially from the head and throat; in order to "Shut-up" the spirit she was trying to suffocate it with her hands or by a belt from her pants. In fact, a few months before, she had been found unconscious at home due to attempted suicide, and was therefore hospitalized. The diagnosis was a psychotic decompensation with a framework of auditory hallucinations (hearing voices in a dialogue among unknown people saying they would kill her) and seeing images of men in the room trying to strangle her. The patient reported the incident to the physicians and ascribed it to an evil presence that had put his "hands around her neck". She was discharged with a diagnosis of a chronic schizophrenic psychosis resistant to drug therapy. In the following months there were multiple further calls for help from the emergency medical service for suicide attempts caused by hallucinations.

The choice of suicidal mode, by suffocation, is particularly striking; the victim acted with a typical psychotic profile paradox: to turn off and definitively silence the voice of the

spirit inside her, she turned off her own voice (and life) by choking herself with a handkerchief. The serious mental disorder exacerbated and overlapped the delusions about magic and superstition. Superstitious thought, in fact, has all the features of archaic thinking: it is poorly organized and tolerates contradictions; it is governed by emotions and is therefore impervious to experience. And so, full of certain misconceptions due to misapprehensions and desires, it is not able to make suitable objective judgments about the external world, being full of ambivalence and symbolic replacements (20). Regarding the belief in evil spirits that possessed the subject, some Authors argue that it is "a belief in spirits conceived as the most powerful human creatures, able to control all the aspects of human life that cause stress" (21). The figure of the subject possessed by "evil spirits" is seen as a creature in which an unclean spirit thrives, and is psychologically driven to lash out, to purify. In this area can be included not only patients with a declared psychiatric disease (as in the case we present), but all those subjects suffering from an insufficient or disharmonious personality development, that may not be directly attributable to pathological reasons, but in which exogenous factors (magic, subculture, superstition, little or no culture, unprocessed religion, etc) play a role. Concepts such as possession, black magic, the evil eye and other such notions should be considered pathological or delusional, when, as in this case, they "introduce an impoverishment or a behavioral bias and if they make the individual unable to carry on social relations and not able to achieve important results" (22).

The autopsy showed abundant red wine hypostases localized on the face, neck and upper chest. Petechiae were seen in the visceral pleura and epicardium, and visceral congestion.

The absence of the upper left canine and lower left premolar were also noted, with no traumatic lesions of the labial mucosa. There was no other sign of internal or external trauma.

Section showed hemorrhagic infiltration in the soft palate and the soft tissues at the upper portion of the larynx. The histological examination confirmed multiorgan congestion and subpleural emphysema.

Toxicological findings denoted and quantified a clozapine overdose compared to traditional doses. The quantities present in the blood at the time of death (0.9 mg/ml) were indicative of her having taken more than three times the prescribed dosage (300 mg/day). The presence of clozapine in the stomach in extremely small quantities (0.45 g total) allowed us to assume that a long time had elapsed between drug ingestion and the time of death.

Discussion

Choking is a form of asphyxia in which the internal airways are obstructed. Choking may be homicidal if a gag is placed in the mouth and/or pharynx, but most cases are accidental.

Natural deaths are seen in individuals with acute fulminating epiglottitis, where there is obstruction of the airway by the inflamed epiglottis and adjacent soft tissue. Such individuals represent medical emergencies and can die lite-

rally in front of a physician. The individual develops a sore throat, hoarseness, respiratory difficulty, inability to speak and then suddenly collapse when the airway becomes completely obstructed. Inhalation of steam can cause a similar picture, with a markedly edematous, beef-red mucosa in the larynx with obstruction. Homicidal deaths by choking are relatively uncommon; most choking deaths are accidental in manner. In adults, choking virtually always involves food, and in such cases is commonly associated with acute alcohol intoxication, badly fitting dentures, neurological injury or senility. Often cardiopulmonary resuscitation is ineffective; if the individuals giving mouth-to-mouth resuscitation see that the chest is not rising when they blow into the airway, this indicates obstruction.

If the individual had an occluded airway and the object or food was removed during resuscitation, the only way to make the diagnosis would be on the history (23).

In typical forms, the occlusion consists of solid materials that can act as a "buffer" causing the obstruction of the airway, such as soft paper towels, toilet paper and towels, etc. Instead, you can find buttons, beads, etc. in cases of a semi-occlusion by the object that does not adhere perfectly to the respiratory lumen.

The pathophysiological mechanism is mainly characterized by an impaired gas exchange in the body, and in addition, an oxygen deficiency occurs due to an impediment to the expulsion of CO₂. Some authors hypothesize that a fatal vagal reflex or "reflex cardiac death", mediated through the parasympathetic nervous system, can occur through hypersensitivity of the larynx to aspirated food or object (23-24).

Although in our case we could not find the handkerchief, because it had been removed by the emergency medical service staff, the forensic medical diagnosis was based on the discovery of small ecchymoses on the mucosal respiratory tract, especially at the level of the soft palate and the soft tissues at the upper portion of the larynx (intubation was not performed) due to the action exerted at this level by the handkerchief, and with clear signs of asphyxial death.

The suicidal hypothesis was supported by the personal history, characterized by previous suicide attempts, mental illness with a chronic schizophrenic character, and frequent hallucinations. However, it did not seem quite sufficient to justify the tenacity of this self-destructive woman who had committed suicide in such an unusual way. This mode is unusual in that it produces a slow, gradual asphyxiation; it would be easy to remove the obstruction in response to the human instinct of self-preservation, but this was probably suppressed in this case by an excessive intake of psychotropic drugs.

The toxicological data suggest that at the time of choking, the woman was not completely unconscious but was in a state of sedation. These conditions reduce the capacity of self-defense and at the same time the possible development of self-rescue maneuvers.

The absence of any harm of a violent traumatic nature or signs of reaction by the woman to external aggression excluded the homicide hypothesis, confirming suicide, despite with some reservations as to the accidental nature of the act.

In fact, the body showed a recent avulsion of the left upper canine. In the absence of medical records or witness statements to that effect, and involving a single tooth without mucosal labial lesions, it was possible to hypothesize either an avulsion during attempts to rescue the patient, in order to explore the airways, or a recent extraction. In the case of a tooth extraction it is possible to assume that the soft tissues had been used to buffer the bleeding. In this case it is possible that aspiration could have been accidental.

Suicide by choking is difficult to accomplish and can easily be confused with accidental or homicidal choking. The psychotic dimension is an important variable to consider in the origins of suicidal behavior, especially a hallucinatory component, which most likely induces some patients to perform acts motivated by a distorted view of reality (25-26-27).

A recent random multicenter international study (Meltzer et al in 2003) compared the effectiveness of Clozapine and Olanzapine in 980 patients at high risk of suicide. In the group treated with Clozapine, a significantly lower suicide rate was found compared to the rate observed in the group treated with Olanzapine (28). The reduction of suicide risk after long-term treatment appears to be related to the effectiveness of this compound in controlling impulsiveness and aggression.

Another variable is the difficult control of the iatrogenic phenomena of drug treatments (eg, neuroleptic behavior induced by akathisia) and its potential involvement in the development of suicidal behavior (29) or an accidental event (30).

In our case, there were two possible scenarios, the first in which the patient suffering from a psychotic delirium characterized by voices coming from inside her decides to end it by suffocating, and purposefully pushes tissues down the pharynx. In the second situation, which is accidental, the patient could have put the handkerchief in her mouth on the upper left canine to buffer the bleeding, but being under the influence of the drug Clozapine (side effects: drowsiness, mental confusion, agitation, respiratory depression) (31), it fatally blocked the airway causing early asphyxia, mechanical, violent internal suffocation.

The case reflects the difficult treatment and monitoring of a psychotic patient, despite regular treatment at the hospital and the daily control of the caregiver (32). The availability of drugs in pills exposes patients to a possible lethal self-ingestion.

Despite the presence of a serious mental disorder, the cause of such an unusual, rare suicide can be referred to an anthropological and cultural matrix, as characterized in this case by the legacies of the past and popular beliefs that make it difficult to identify a clear psychopathological mechanism underlying the suicidal technique implemented by the victim.

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