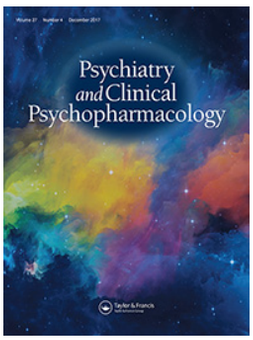

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CASE REPORT

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An unusual case of unplanned complex suicide

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ABSTRACT

Suicide is defined as using more than one method to induce death. Suicides are divided into simple and complex cases. A complex suicide is defined as the use of more than one method to induce death. The planning of several methods for inducing death further permits the classification of suicide into planned and unplanned. In planned type, two or more methods are applied simultaneously to make sure that death will occur. In unplanned type, a second method is just used if the first method is unsuccessful or painful. Less fatal methods like poisoning or cutting is combined with a second method which is usually more lethal like shooting, falling from a height, burning, or hanging. Here, we present a complex suicide case who is living despite using three suicide methods consecutively.

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KEYWORDS
Complex suicide; suicidal behaviour; depression

Introduction

Suicide is among the top 10 leading causes of death in individuals of all ages. Genotype and early childhood experiences might determine the manifestation of neurobiological and clinical factors associated with suicidal behaviour, namely neuroendocrine (hypothalamic–pituitary–adrenal axis (HPA axis)), neurotransmitter (serotonin, norepinephrine, and dopamine), and clinical (aggression/impulsivity, pessimism, neuroticism, and hopelessness) endophenotypes. Hypothetically, genetics and early environmental challenges influence HPA axis function, which in turn interacts with brain neurochemistry. These effects of HPA axis function on neurochemistry and HPA function itself have been shown to be related to several clinical endophenotypes relevant to suicidal acts and may provide the link between suicidal behaviour and these diverse clinical and neurobiological risk factors [1].

Suicidal behaviour is described as an attitude towards death in the dilemma between life and death. Fatality rate of suicide attempt depends on aim, preparation of the selected method, knowledge of the individual about the selected suicide method, his/her expectations, and sometimes other factors like intervention of other people [2,3]. Main serious suicide attempt types are using dangerous drugs, organic phosphorus, corrosive materials, hanging, firearms, jumping, and sharp objects [4].

Complex suicide is defined as inducing death by using a combination of methods. It denotes the intricacy of the death mechanism and also specifies the use of more than one method to induce death. On the other hand, "complicated suicide" is different than complex suicide and is characterized by unintentional secondary traumas following the initial suicide method. Complex suicide can be divided into "planned/unplanned" or "primary combined/secondary combined" suicide. If the combination of multiple suicidal methods is previously prepared, the suicide is categorized as "planned." If the failure of the initial mechanism brings the victim to come up with an alternative method, the suicide is categorized as "unplanned." Of all suicide cases, 1.5–5% can be classified as complex suicide [5].

Suicidal behaviour can occur during the course of many psychiatric disorders such as major depressive disorder, personality disorders, psychotic disorder, and bipolar disorder [3–7]. Sadness, reluctance, and despair constitute the significant signs for suicide. As these are common symptoms of depression, suicide attempts are often questioned by clinicians in depressive patients.

In this paper, we present a complex suicide case in a patient with major depressive disorder where pesticide ingestion, prescription pills ingestion, cutting wrists, stabbing on the neck, and finally hanging were the suicidal methods.

Case presentation

A 43-year-old, divorced man was found at his home by his relatives. There were 2 empty blister packs of 10 tablets each of diclofenac potassium 50 mg (1 g of diclofenac in total), 3 empty blister packs of 10 tablets

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each of domperidone 10 mg (300 mg of domperidone in total), and 2 empty blister packs of 14 tablets each of pantoprazole 40 mg (1,120 mg of pantoprazole in total) in his close proximity. He was admitted to our emergency department after a suicide attempt by hanging himself.

He was found in a half-conscious state, seemed cyanotic. He was breathing with an oxygen mask. Gastric lavage with activated charcoal was administered. Vital signs were as follows: blood pressure was 90/60 mmHg and respiratory rate 18 breaths per minute; pupils were dilated, equal, and each in 3 mm in diameter; there was no evidence of myoclonus or muscle rigidity. Serum biochemistry and complete blood count values revealed normal transaminases (aspartate aminotransferase (AST) 11 U/L and alanine aminotransferase (ALT) 10 U/L; normal values (n.v.), AST < 11 U/L and ALT < 10 U/L) and normal creatine kinase (53 U/L (n.v. creatine kinase < 200 U/L)). Serum potassium and magnesium were in the normal range, as were other values. The blood ethanol value was <10 mg/dl.

Arterial gas analysis revealed a pH of 7.43 (7.35–7.45), PaO_2 41 mmHg, HCO_3 27.3 mmol/L, sO_2: 71% (95–99%), HCT 50.7% (34–48%), O_2Hb 57.2% (94–98%), carboxyhaemoglobin (arterial blood) 18.2 (0.5–1.5), and lactate (arterial blood) 2.1 mmol/L (0.5–1.6). His electrocardiogram did not reveal any abnormalities. A cranial computerized tomography scan was unremarkable.

After an hour, he was alert and awake to go through psychiatric examination. He was talking negativistic and slowly. He wanted to commit suicide because of feeling insufficient to take care of his kid. He was divorced 3 years ago. He reported that he was feeling depressed and living under abject poverty conditions. The neurologic examination revealed no focal findings. External examination showed multiple, linear, parallel, and commonly superficial self-inflicted incised wounds of the flexor surface of the left wrist and neck. In addition, there was a hanging mark on the neck.

The psychiatric history was in fact characterized by the presence of a diagnosis of depressive disorder. He had nausea, vomiting, and diarrhoea for the last 3 weeks. He was currently being treated for gastrointestinal sickness by the pills he had received. His brother said that the patient had been very sad, reluctant, and anxious for a period of 2 weeks caused by familial and financial problems. However, the patient has never received a psychiatric treatment for his depression. He never had a depressive or manic attack before. His brother had received bipolar disorder diagnosis.

The patient told that he had ingested pesticide 2 days ago but vomited afterwards. Later he had planned to die by taking his prescription pills. After taking the pills, he tried to cut his wrist and neck. Because of failing at these two methods, he hanged himself. But the cable ruptured and he fell on the floor.

The clinicians decided to admit the patient into the intensive care unit in order to ensure the early detection of hypoxic encephalopathy and any side effects of the high dose pills. But there were no empty beds in our hospital's intensive care unit so the patient was transferred to a different hospital.

Discussion

Our case has several risk factors for suicide. He was in an untreated depressive situation with social and financial problems. Especially the use of more than one suicide method consecutively – termed unplanned complex suicide – gives this case particular significance. He attempted suicide by pills, sharp objects, and hanging. Subjects may apply methods of lesser lethality before opting to use more fatal techniques. The transition from lesser to greater methods of lethality is most likely related to pain, anguish, and frustration experienced by the suicidal individual [3].

When a complex method was used by a victim, even on the best investigation, it cannot be discriminated between suicide and homicide if the subject had died. The scene could reveal features of suicide privacy, farewell letter, and so on. Relatives or friends of the deceased at the scene may provide background information such as history of depression and of previous suicide attempts and marital, social, or financial troubles [4]. In our case, a farewell letter was not found. In addition, there was no evidence of a struggle or drag marks suggestive of homicide. Social and medical history and finally the half-conscious patient himself – different than other reports – suggested a suicide. He chose easily accessible methods in his own home.

Post-mortem studies have suggested abnormalities in the brain serotonin system of individuals who had completed suicide. Serotonin receptor changes associated with major depression could be distinguished from receptor changes associated with suicide [8]. Low levels of 5-hydroxyindoleacetic acid concentrations and higher levels of platelet 5HT2A receptors have been demonstrated in the cerebrospinal fluid of depressed patients with a history of suicide attempts by studies [9,10]. Also there is some evidence suggesting genetic factors related to familial predisposition to suicide attempt and completed suicide [11]. Unipolar depressed patients who were suicide attempters had 1.9 times more magnetic resonance imaging findings of deep white matter hyperintensities and 2.1 times more periventricular hyperintensities than those who were non-attempters [12].

Shooting, falling from a height, burning, and hanging are violent suicide methods. In a study, violent suicides were found to be more prevalent in older males, besides associated with higher suicidal intention scale scores and higher risk of new suicide attempts [13]. Despite the usage of three methods, suicide

attempt was not successful in our case. Also complications of these methods did not cause death.

Hanging has a high mortality despite early and correct intervention. The main reasons for survival in hanging can be attributed to immediate decompression of the neck and application of early resuscitative measures [14]. In survivors of hanging, epilepsy, pulmonary complications such as acute respiratory distress syndrome, pulmonary oedema, and bronchopneumonia are often detected [15].

Usage of methods other than intoxication and cutting, especially hanging, for attempted suicide is moderately to strongly associated with subsequent successful suicide. This should be taken into account in clinical practice in the evaluation of suicide risk and in the planning of care after a suicide attempt [16]. Detection of alerting symptoms related to suicide will help to develop new therapeutic and suicide prevention approaches. Also risk factors such as male gender, being elderly, past suicide attempts, family story about suicide or mood disorders, alcohol dependence, being divorced or widowed, and living alone must be checked for risky patients. In conclusion, in case of a complex suicide, the study of the circumstances, a careful inspection of the suicide scene, and detailed psychiatric history and examination are necessary to successfully manage these cases.

Disclosure statement

No potential conflict of interest was reported by the authors.

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