



Case Report

A planned complex suicide by self-stabbing and vehicular crash: An original case and review of the literature

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ABSTRACT

Suicide is a frequent manner of unnatural death, especially from a forensic point of view. Complex suicide is defined as a recourse to more than one potentially lethal mechanism to deliberately induce death. This paper presents a complex suicide with a novel combination of self-killing methods. A 27 year-old man, working as a butcher, was found dead in his crashed car. The facts were initially in favour of an obvious traffic accident until a knife was discovered penetrating the driver's chest, requiring the police who were on the scene to carry out a criminal investigation. The cause of death was a major hemorrhagic process due to vascular thoracic lesions and internal blood loss. Based on the circumstances surrounding the death, the police investigations and the findings at the autopsy, the case was classified as a planned complex suicide. Through this original combination of two methods of suicide, this paper underlines the significance of a complete criminal investigation supported by a detailed crime scene inspection and autopsy examination.

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1. Introduction

Suicide is a frequent manner of unnatural death, especially from a forensic point of view. Between 2000 and 2015, an average of 10,700 deaths by suicide per year were accounted for in France [1]. In each case, one of the forensic pathologist's main missions is to attempt to distinguish death by suicide from other forms of violent deaths such as accidents or homicides.

Complex suicide is defined as a recourse to more than one potentially lethal mechanism to deliberately induce death [2]. Two entities are usually described in literature. Primary or planned complex suicide is defined as a combination of more than one previously planned method in order to prevent the first method from failing. Conversely, in secondary or unplanned complex suicide, the victim employs an alternative second method only after the first method failed, was too slow or proved to be painful [2–12].

Distinguishing between complex suicide and homicide might be an intricate task for the forensic pathologist [5]. Thus a proper analysis of the deceased's medical history, the location where the corpse was found, the systematic realization of an autopsy as well

as additional tests, are imperative. All the information collected can contribute to providing key points in order to characterize the medical cause of death, potentially the chronology of events and, above all, determining the manner of death as suicide or homicide.

The present paper shows an unusual complex suicide case, never described in the forensic literature, by a vehicular crash and self-stabbing in a 27-year-old man.

2. Case report

A 27 year-old man, working as a butcher, was found dead in his crashed car. In the beginning, the case was determined as a simple car accident in the light of the characteristics of the road, damage to the car and first testimonies given by the neighbors.

In fact, the accident occurred in a bend with trees and the major mechanical damage to the car suggested that it had crashed at a high speed.

A knife completely penetrating the driver's chest was quickly discovered, requiring the police who were on the scene, to carry out a thorough investigation.

After the initial police investigation, the forensic pathologist was called to make the first observations and to preserve evidence.

The body was lying on the right side and the legs were trapped between the driver's seat and the dashboard (Fig. 1). The head and

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Fig. 1. Legs trapped between the driver's seat and the dashboard.

the upper part of the trunk were extended on the rear seat of the vehicle. A knife was inserted into the chest, cutting through clothing (Fig. 2).

The practitioner noted unfixed hypostasis on the right side and the absence of rigidity and signs of decomposition. He reported signs of congestion of the face and cyanosis.

In addition to the knife inserted into the chest, the body showed following external injuries: a regular linear vertical abrasion on the forehead and a large abrasion under the chin which were not characteristic of self-harm. A linear and horizontal abrasion on the front of the neck had been noted and, inside the mouth, bloody tears on the lips. On the legs, wounds with comminuted fractures and abnormal mobilities were observed. Finally no signs of hesitation marks were observed on the body.

An autopsy was conducted and revealed penetrating injuries with intracorporeal lesions which followed the same path into the chest. The dissection of the subcutaneous tissues and muscles revealed that the defect in the chest wall lies in the sternum through which it had penetrated to reach the right auricle of the heart and vessels (aortic arch, right pulmonary artery and superior vena cava). The stab wound terminated in the vena cava (Figs. 3–5). The direction of the stab wound channel was the following: from front-to-back, slightly outwards (from right to left) and upwards.

Other lesions related to the vehicular crash included bruising and contusion of the lungs, fracture of the ribs, pelvis and bones of lower extremities, liver and splenic contusions.

Right haemothorax, haemopericardium and more than 1.5l haemoperitonium were associated to coagulated hemorrhage.

None of the chest wounds were immediately fatal.

Toxicological findings showed no traces of legal or illegal drugs. Histological analyses were not required by the authorities.



Fig. 2. Head and upper part of the trunk extended on the rear seat of the vehicle with a knife inserted into the chest.



Fig. 3. The knife inserted into the chest.

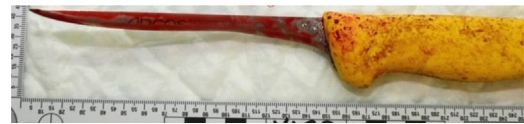


Fig. 4. The used knife with a single-edged blade covered in blood.

The police officers reported that the deceased had previously verbalised suicidal ideas and a suicidal message was recovered on his wife's phone. The police also reported that he was in emotional distress due to his wife's recent adultery. Despite this, he married her three weeks later.

To conclude, the death resulted from a severe thoracic injury caused by a single stab wound to the chest with extensive trauma due to a blunt impact caused by the crash. More precisely, the death occurred through a major hemorrhagic process due to vascular thoracic lesions and internal blood loss.

Based on the circumstances surrounding the death, the police investigations and the findings at the autopsy, the case was classified as a planned complex suicide.



Fig. 5. Stab wounds with heart and vascular lesions (1 – vena cava superior; 2 – ascending aorta; 3 – right atrial auricle).

3. Discussion

Suicide is the first cause of mortality among French aged 25–34, namely 20% of deaths in this age group [13]. Regarding complex suicides as defined in our introduction, they continue to be a rare occurrence since they make up 1.5–5% of all suicide deaths [3–5]. Usual combinations of suicidal methods found in the literature are poisoning and hanging/suffocation, gunshot and hanging or drowning or fall [5]. On the other hand, the combination of a car crash and a stab wound seems to be particularly original and has not been identified as a suicidal method in the forensic literature.

For the unplanned cases, the most common methods are self-stabbing, self-cutting, hanging, gunshot and fall [5]. The study by Ohshima and Kondo presents 261 suicide deaths between 1991 and 1998, of which 8 are self-stabbing (3.1%) [14].

Suicides by self-stabbing are more prevalent in male than female [14]. The male preponderance is evident also in motor vehicle suicides as the majority of deaths are committed by young males [15], aged between 15 and 34 years [16].

The localization of injuries can give useful clues to forensic pathologists for distinguishing between suicide and homicide. Stab wounds on the back strongly suggest homicide, whereas sharp force injuries on bodily parts anatomically possible and easily accessible such as in the thorax suggest suicide. The most frequent site of self-stabbing is the left side of the chest, as in our case.

The stab wounds in suicide are usually sustained on sites not covered by clothing, or on sites exposed after the clothing is pulled up [17,18]. Karlsson et al. reported that in 4 (4.5%) of 89 cases of suicide by sharp force injury, the clothing was damaged as well [17]. According to Start et al. [18], self-inflicted injuries were sustained through the clothing in eight (28.6%) of 28 cases. Moreover Karger et al. observed perforation of clothing in 16 (52%) out of 31 suicidal stab injuries to the trunk [19].

The suicidal car collision seems to be rare and few studies bear upon this point [20–22]. Predominantly they appear in single-occupant and single-vehicle accident situations, such as in our case.

The diagnostical difficulty involved in complex suicides implies a compendium of facts and investigation data, the autopsy alone not being sufficient to conclude. The testimonies of acquaintances regarding the deceased's personality, his physical condition, any revelations concerning personal issues that could be at the root of acting out (family, sentimental, financial, professional issues), the examination of medical history, particularly psychiatric, or any previous acting out (even though they do not stand for a risk of complex suicide) [3] are all essential and need to be crossed with autopsy arguments. In the case presented above, the deceased was suffering from personal and sentimental issues regarding his wife's adultery.

Demirci et al. reported 16 cases of complex suicides in which 10 were known to have psychiatric history (62.5%) [6], just like Ohshima and Altun who demonstrated the presence of psychiatric issues in most cases of complex suicides [4,14]. Accurately Start et al. reported that psychiatric history was established in 57% of cases of suicide by self-stabbing [21]. In our case, we did not have any knowledge of psychiatric history or the use of medicines or drugs.

The inspection of the death scene is a major element in order to highlight the hypothesis of suicide. The position of the corpse, the clothes, possible stains of body fluids and notes explaining the suicidal gesture [3,23–25] are to be investigated in a systematic way during at-the-scene forensic examinations. Although we did not find anything suspicious in the environment of the corpse, some elements reflecting the intervention of one or more third

parties are obviously to be taken into account such as traces of force, theft, disorder or signs of struggle or fighting.

Regarding the chronology of the events, there was no evidence that the stab wound had been produced before or after the vehicular crash. We can confirm that these two traumatic events occurred while the man was alive and probably simultaneously or within a very short time interval, however it is not possible to be more accurate.

4. Conclusion

To conclude, this case is very unusual, as all the collected data strongly supported the hypothesis of a suicidal death by vehicular crash and self-stabbing. To our knowledge, the combination of these two methods in a complex suicide case has never been reported in the literature. In such cases, the manner of death should be determined based on a complete criminal investigation supported by a detailed crime scene inspection and thorough autopsy examination. It seems to be very important for the investigating forensic physician to keep the range of documented methods in mind.

Conflict of interest

The authors declare that they have no conflict of interest.

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