

## Complex Suicide: Unusual Combination

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### Abstract

There are a great number of complex suicides in the literature. It is so interesting to expand the list and to publish more cases of complex suicide which are examined by forensic worldwide. It's interesting to know the maximum of method that can be used by suicidal individuals. We present a case of a complex suicide of a young woman by using ingestion of paraphénylène Diamine associated with self-strangulation by a link. Self-strangulation is probably used to accelerate death or to reduce pain caused by the first method. Forensic autopsy and further tests confirmed the voluntary intoxication by PPD and showed signs of strangulation by a loose link. The circumstances of the facts and the judicial inquiry were in favor of self-strangulation without the intervention of another person. This case illustrates an example of complex suicide. To our knowledge, it is the first case of complex suicide involving intoxication PPD and self-strangulation.

**Keywords:** Complex suicide; Intoxication; Self-strangulation; Autopsy

### Introduction

In 1974, Marcinkowski et al. [1] had considered a general division of methods of suicide. In this classification, suicides are divided into simple versus complex suicide. In complex suicides, two or more methods are applied either simultaneously or one after the other [2,3].

Frequently seen combinations are the ingestion of toxic in combination with hanging, use of a gun with hanging, drowning and injuries from knives or falling from height [3-5]. The combination of ingestion of paraphenylene Diamine (PPD) with self-strangulation has not been reported in the literature until now. The use of multiple, sometimes extraordinary methods, might suspect homicide justifying the necessity to push investigations.

In this article we report the case of a young woman who committed a suicide by ingesting PPD. The forensic investigations have shown signs of strangulation by a wide link in addition to the intoxication with PPD. The analysis of the circumstances and the police investigation was in favor of self-strangulation, explaining the premeditation to accelerate death.

### Case Report

A twenty three old woman, unmarried, has three abortions as a history. The last abortion dates back to the last twenty days before death. The young woman had neither psychiatric history nor suicide attempt. According to investigators, she was found by her mother around 16 PM, died in her room. The deceased was dressed in pants, a sweater and a scarf around her neck. Near the body, a bottle containing a blackish powder was found. The latter has been sealed for toxicological analysis.

At the autopsy, the external examination showed a small build body, dark cyanic fixed and posterior lividity, rigidity in the four limbs and cyanosis sub inguinal. A small scratch in the outer corner of the left

upper eyelid was noted. She had a rounded ecchymosis in the right side of forehead measuring 1.5 cm in diameter. The body's examination has also revealed traces of black liquid flowing from the right angle of the mouth (Figure 1) and a blackish tint at the first, second and third right finger (Figure 2).



Figure 1: Blackish liquid from the mouth.



Figure 2: Blackish tint at the right hand.

There were no signs of violence elsewhere especially in the neck nor signs of struggle.

The autopsy had disclosed multi visceral congestion with pulmonary and cerebral edema. The heart hasn't showed any abnormality. The stomach contained some dark liquid without food debris.

The dissection of the cervical region displayed ecchymosis and bleeding suffusions at the sterna-mastoid muscle in the left side making  $6.5 \times 2$  cm (Figure 3), ecchymosis of the base of the tongue (Figure 4) and in the back of the esophagus (Figure 5).



**Figure 3:** Ecchymosis at the left sterno-mastoid muscle.



**Figure 4:** Ecchymosis of the tongue base.

Blood, urine samples and gastric contents have been taken for toxicological tests, which have revealed the presence of an oxidative substance presumably the PPD.

There were neither other drugs nor pesticide. The same substance has been identified in the seized product in the bottle which was found near to the deceased.

The analysis of the circumstances and the police investigations has ruled out the possibility of homicide because there were not any signs of forced entry of the scene and there was not a suspected conflict.

The experts concluded that the death was the result of a deadly and voluntary intoxication PPD associated with mechanical asphyxia by strangulation by a loose connection.



**Figure 5:** Ecchymosis behind the esophagus.

## Discussion

In 1974, Marcinkowski et al. [1] had considered a general division of methods of suicide. In this classification, suicides are divided into simple versus complex suicide. According to statically evaluations, complex suicide represent 1,5 to 5% of all suicides [2,6]. In complex suicides, two or more methods are applied either simultaneously or one after the other [2,3,7,8].

Usually a distinction is made between planned and unplanned complex suicides [8]. In the first group, two or more methods are applied simultaneously in order to make sure that death will occur even if one method fails. In unplanned complex suicides, the mode of performance is changed after the first method failed or was too slow or proved to be painful [2]. The use of more than one method of suicide makes the distinction with homicide difficult especially when the method used rarely seen in suicide. This article illustrates an uncommon way of suicide which is self-strangulation. The Most reported suicide methods in the literature were injuries by firearms (the most used method) [9], intoxication household products and insecticides [4,5] phlebotomy [5], falling from a highlight, hanging and drowning [8]. Less commonly, cases of self-immolation have been reported in the context of a planned suicide [10]. The self-strangulation was postponed but rarely associated with traumatic injury [11] (knives or falling from a high). It has been mainly reported in the context of self-erotic activity as an accidental event.

Generally, there is a gradation in the use of the different method. In fact, the victim prefers to start with the least lethal and the less painful method before choosing a more serious approach to have less chance to escape death [12].

In our case, the victim had used the PPD associated with self-strangulation with loose link. The unplanned suicide by ingestion PPD and self-strangulation presented an unusual combination. Our literature review revealed no prior description of such combination.

The voluntary intoxication with PPD in intent to suicide was usually isolated. This product is specific to African countries and the Middle East where it is free [13]. It is used by women for cosmetic reasons. The PPD is responsible of 25% of poisoning [13]. It is used in intention to abort or to suicide [14].

In the case of intoxication PPD, death is the consequence of asphyxia due to laryngeal edema and renal failure [13].

In this case the autopsy hadn't showed laryngeal edema. This can be explained by the ingestion of low dose of PPD by the decedent or the product contains low concentration of PPD. So the decedent had used the self-strangulation method to accelerate death. We believe our case

is the first reported instance of unplanned complex suicide involving self-strangulation and PPD ingestion.

This case is illustrative of the wide range of methods employed by those who commit or attempt to commit suicide.

In cases like the one reported here, it is important for the investigating forensic pathologist to keep the range of documented methods in mind. Giving that suicide is a violent and suspected death requiring medico legal exploration.

## Conclusion

Suicide is a delicate medico legal situation. When more than method of suicide is used, homicide can be suspected. Homicide is difficult to be ruled out in these cases especially when the methods used are uncommon way of suicide. Only the scene examination, the police investigation combined with the autopsy finding can determine the medico legal form of the death and reconstruct the circumstances of death.

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