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## Case Report

# Suicidal strangulation with uncommon ligature material – two case report

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### ABSTRACT

Strangulation is one type of asphyxia death in which compression of neck with ligature material without suspension of the body and commonly homicidal in nature. Self-strangulation by ligature is uncommon. It must be differentiated from homicidal strangulation, accidental strangulation and from sexual asphyxia. The ligature material in suicidal strangulation may be knotted or multiple circle around the neck or tightened like a tourniquet. The uniqueness in the present study is the use of 'self-retaining' nature of the ligature material. The ligature material was found in situ, completely encircled the neck.

Two cases of self-strangulation are discussed here. One case was found inside closed room and other was found on the bank of the river. In both cases two self-locked ligature material was used. Both cases were meticulously investigated by postmortem examination, scene of crime and circumstantial evidences, all are suggestive of suicidal strangulation.

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## 1. Introduction

Strangulation is the type of asphyxial death produced by constriction of the neck by ligature without suspension of the body.<sup>1</sup> WHO mortality data revealed that in most of the counties suicide by hanging was the commonest method of suicide.<sup>2</sup> Literature shows that suicide by strangulation is rare.<sup>3</sup> Strangulation is usually considered as homicidal death otherwise proved by meticulous post-mortem examination, with laboratory data and circumstantial evidences. Suicidal strangulation is rare and it requires a self-retained mechanism. Literature shows material used are rubber tube, leather belt, electric wires, elastic bandages etc. many forensic experts are believed that suicidal strangulation is not possible to be carried out.<sup>4-6</sup> To produce cerebral asphyxia, a pressure of 2 Kg. is required to compress the venous system and pressure of 3.2 kg is required to occlude the airways and minimum pressure is

required to inhibit vaso vagal system.<sup>7</sup>

## 2. Case 1

A 18-year-old male brought for postmortem examination on 11.8.2020 at 1.30 pm. According to investigating officer the room was looked from inside and the deceased was found on the floor seen through the ventilation slit of the room by the persons working in same area because they wanted to open the room, and he was not responding.

On external examination it was observed that post-mortem lividity on posterior aspect of the body, tip of tongue is protruding, blood stained fluid was coming out from mouth and nostrils, face was congested and nails and lips were bluish. A contusion was present on left leg 1.5 X 1.0 cm and abrasions were present on the 2<sup>nd</sup> to 5<sup>th</sup> head of metatarsal of left foot. In the neck two plastic self locked ligature material was present having distance of 1.00 cm completely encircling the neck with fix knot on left side of the neck.

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Internal examination reveals extravasations of blood around larynx and tracheal rings. There is no fracture of thyroid, hyoid and tracheal rings. Stomach was empty and other organs were congested.



**Figure 1:** Ligature material in situ – anterior and lateral aspect



**Figure 2:** Ligature material and in situ – posterior aspect

### 3. Case 2

A male aged about 32 years old was brought by police for the medicolegal post mortem examination on 10.05.2020. According to investigating officer, he was unemployed for long duration and having family responsibilities so he went on the bank of Tapi River and committed suicide by this ligature material.

On external examination – A male aged about 32 years old with self locked ligature material in the neck. Face is congested, tip of tongue is protruding, blood stained fluid was coming out from the mouth. Skin over the abdomen become dry because of high temperature during day hour. No marks of struggle or any injury over the body.

Internal examination – in neck structures there is extravasation of blood with contusion over thyroid gland and in surrounding area. There is fracture of thyroid cartilage on right side. Stomach contain semi digested food no specific smell and identification of food material. Other organs were congested.

### 4. Discussion

Literature shows that suicide by strangulation is rare.<sup>3</sup> Strangulation is usually considered as homicidal death otherwise proved by meticulous post mortem examination, careful crime scene investigations along with laboratory data and circumstantial evidences. The autopsy findings such as type and situation of ligature material used, facial congestion, absence of fracture of hyoid bones<sup>8,9</sup> along with

minimal or absence of deep tissue injuries and externally there is no defense injuries or struggle mark may give idea about the suicidal manner of death. In literature suicidal strangulations cases were reported by single ligature<sup>9</sup> and by two self-lock material as we also observed two such cases.<sup>10</sup>



**Figure 3:** Ligature material in situ – At scene of the crime

### 5. Conclusion

Though the cases of suicidal strangulations are rare but the autopsy surgeon should exclude the possibilities of homicidal death by careful postmortem examination, evaluation of scene of crime, circumstantial evidences and laboratory investigations before reached on the conclusion of suicidal strangulation.

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### 7. Conflict of Interest

There is no conflict of interest.

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