Death In The Case Of Suspected Neck Fractures Due To Blunt Trauma; A Case Report

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Abstract

Blunt trauma is a forced force caused by a blunt object on the surface of the body that causes injury. Cervical fracture will compress the upper respiratory tract which will result in death due to asphyxia. Found a female body, known, aged 55 years. Found bruises on the back of the neck, waist, thighs missing on compression. corpse stiffness and decomposition is not found. There were lacerations on the head and left forehead, both lips, the tips of the fingers of both hands and the tips of the fingers of both feet were bluish in color, and there were signs of a cervical fracture. From the results of external examination, theory and discussion above, it can be concluded that the cause of death of the victim was suspected to be suffocation due to a fractured neck due to blunt trauma.

Keywords: Asphyxia; Blunt object; Case report

1. Introduction

Traumatology is the science that studies wounds and injuries and their relationship to various forms of violence (forced ruda), while what is meant by a wound is a condition that is not continuous in the body's tissues due to violence. The definition of trauma (injury) from a medicolegal aspect is slightly different from the medical understanding. The medical definition of trauma or injury is the loss of tissue continuity. In the medicolegal sense, trauma is knowledge about tools or objects that can cause health problems for a person. By definition, blunt force trauma is a forced injury caused by a blunt object on the surface of the body which results in injury. Traffic accidents are the most common cases in Indonesia besides that it is the case with the most deaths. In accidents, it is the motorbike riders and the riders who do not wear helmets that are the most common, therefore the most cases are those who experience head injuries. Fractures of the neck usually occur in traffic accidents, in cases of being hit from behind, the passenger who was hit will experience a sudden acceleration resulting in "hyper extension" of the head followed by "hyperflexion". Injury, especially to the IV and V cervical vertebrae which can harm the spinal cord (whip-lesh injury). It is this neck fracture that will compress the upper respiratory tract so that victims suspected of having a neck fracture will result in death due to asphyxia. Asphyxia or suffocation is a condition in the form of reduced levels of oxygen (O2) and excess levels of carbon dioxide (CO2) simultaneously in the blood and body tissues due to impaired exchange between oxygen (air) in the alveoli of the lungs and carbon dioxide in the

blood of the capillaries of the lungs. lungs. A lack of oxygen is called hypoxia and an excess of carbon dioxide is called hypercapnia. There are 4 stages of symptoms / signs of asphyxia:

1. Dyspnea / cyanosis phase
2. Convulsive phase
3. The apneic phase
4. Final / terminal / final phase

In the dyspnoea / cyanosis phase, asphyxia lasts approximately 4 minutes. This phase occurs due to low levels of oxygen and high levels of carbon dioxide. High levels of carbon dioxide will stimulate the medulla oblongata causing changes in respiration, pulse and blood pressure. Breathing appears fast, heavy, and labored. The pulse is palpable fast. Measurable blood pressure increases. The convulsive phase of asphyxia lasts approximately 2 minutes. Initially in the form of clonic seizures then tonic seizures then opistotonic. Consciousness begins to fade, pupils dilate, heart rate slows, and blood pressure drops. The apneic phase of asphyxia lasts approximately 1 minute. We can observe this phase in the form of depression in the respiratory center (weak breathing), decreased consciousness until it disappears and relaxation of the sphincter. The final phase of asphyxia is characterized by complete paralysis of the respiratory center. The heart rate is still there for a while then the breath stops and then turns off.

2. Inspection results

It was reported a case of a 55-year-old female corpse that was escorted by investigators to the Forensic Medicine and Medicolegal Installation at the Haji Adam Malik General Hospital Medan with a request for Visum et Repertum on March 22 2019. Signs of death found were body bruises on the neck back, waist, thighs that are lost on compression. Stiff corpse and Decay were not found.
Signs of Death: Found bruises on the back of the neck, waist, thighs that disappear when pressed. Stiff corpse and decomposition were not found.

Fig. 1. Body bruises were found on the back of the neck, waist, thighs which disappeared when pressed

- General identification: Found a female body, known, fifty years old, body length 156 cm, medium stature, white skin color, short straight hair, black color, and not easily removed.
- Special identification : Not found.
External inspection findings:
Head: Found short, black, straight hair, front hair length nine centimeters, left and right side hair 12 cm, back hair 12 cm. There was a torn wound on the left back of the head, the shape of the wound was irregular, the angle of the wound was blunt and a network bridge was found and

bruises were found around the wound, with a length of 4 cm, a width of 1 cm, a distance from the midline of the body 6 cm and a distance from the apex of the left ear 6 cm .

Fig 2. Torn wound on the back of the left head

There was a reddish abrasion on the left cheek directed forward or on the head with a length of 14 cm, a width of 13 cm, a distance of 1 cm from the midline of the body and a distance of 3 cm from the apex of the left ear.

Fig. 3. Blisters on the left cheek and bleeding from both noses

Forehead: There was a torn wound on the forehead before the left of the wound with an irregular shape, blunt wound angle accompanied by a network bridge, with a length of 4 cm, 1 cm wide, with a distance of 5 cm from the midline of the body and 6 cm from the apex of the left ear.

Fig. 4. Torn wound on the left forehead

Eyes : : No signs of violence found, Nose: Found bleeding in both nostrils, Ears: No signs of violence found, Neck: On palpation found signs of a neck fracture, Chest: No signs of violence

found, Stomach: No signs of violence, Genitals: Found female sex, Back: There was a abrasion on the left side of the back that was reddish in color and directed upwards with a length of 5 cm, a width of 5 cm, a distance of 19 cm from the midline of the body and 2 cm from the top of the shoulder, Pelvic : No signs of violence found, Buttocks: No signs of violence found.
Upper limbs: There was a reddish abrasion on the lower left hand with a length of 5 cm, a width of 1.5 cm, a distance of 9 cm from the left wrist and 14 cm from the left elbow. Found the tips of the fingers of both hands bluish. Lower limbs: There was an abrasion on the upper left thigh, reddish in color, 10 cm long, 1 cm wide, 21 cm from the midline of the body and 31 cm from the knee. There was a reddish abrasion on the left knee, 6 cm long, 4 cm wide. There was a reddish abrasion on the lower right leg, 17 cm long, 5 cm wide, 1 cm from the ankle and 1 cm from the base of the foot. Found the tips of the toes are bluish in color.

3. Discussion

In this case, bruises were found on the back which disappeared from pressure. Stiffness was found, which proves that the estimated time of death for the victim was 30 minutes to 6 hours. There was a torn wound on the head and on the left forehead where the wound was irregular in shape and a network bridge was found based on the theory above indicating that the wound was the result of blunt trauma. Found both lips, the tips of the fingers of both hands and the tips of the toes of both feet are bluish, this proves that his death was the result of asphyxia. Based on the theory above, the neck experienced a sudden acceleration resulting in "hyper extension" of the head followed by "hyper flexion". It is this neck fracture that will compress the upper respiratory tract so that victims suspected of having a neck fracture will result in death due to asphyxia.

4. Conclusion

A female corpse has been examined, known, aged fifty years, body length 156 cm, medium stature, white skin color, short straight hair, black color. From the results of the external examination, theory and discussion above, it can be concluded that the cause of death of the victim was suspected of suffocation due to a broken neck due to blunt trauma.

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