



CASE REPORT

Sudden Death Triggered by Emotion

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Abstract

Background: Sudden death is a death that happens suddenly, unexpectedly whereby before this the person looks healthy, showing no signs of trauma or poisoning. One of the reason of sudden death as well as the biggest reason is because of cardiovascular system disease.

Case Presentation: It is reported a case with a deceased male with the initial of Mr. B, 72 years old, addressed in Medan, Labuhan. The deceased was brought to the hospital by the police with the request of Visum et Repertum and then an examination on the corpse as well as corpse surgery was done. Before the deceased was stated dead, it was known he had an argument with someone, he then fell and died.

Conclusion: Someone who is irritable and easily offended can give out negative auras that trigger stress and give bad effect to the entire office, household, or classroom. When feeling upset, anxious, angry, and fussy, our tolerance is lower and we are more likely to be disturbed by the kind of small frustration that we usually avoid. Our reaction to anger also tends to be far more aggressive than usual

Keywords: Emotional, Sudden Death

1 | INTRODUCTION:

Sudden death caused by diseases, often bring suspicion to both the investigators and the society, especially if the death befalls on people who are well known to the public, death in detention centers and in public places such as hotels, cottages or motels. Suspicions of criminal elements in the case of sudden death, are mainly due to the crime scene matter, which is neither in the victims' house nor in the hospital, but in the public place. Thus sudden death is included as a forensic case, although the autopsy results show that the victim dies because of heart disease, cerebral hemorrhage or rupture of cerebral aneurysm. Causes of sudden death can be

classified according to the body's systems, namely the cardiovascular system, respiratory system, central nervous system, gastrointestinal system, urogenital system and endocrine system. Of these systems, the most common causes of sudden death are the cardiovascular system, in this case the disease [1]

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(Muin, 1997).

Sudden death is a death caused by a natural disease, which occurs suddenly and unexpectedly where trauma and poisoning factors are not found. So the notion of sudden death here includes not only immediate death, but also unexpected events of death. Thus sudden death happens to someone who looked healthy and who was only mildly ill, either with triggering factor or not [2] (Satyo, 1990).

2 | CARDIOVASCULAR DISEASE :

Cardiovascular disease is the disease that mostly causes sudden death in Malaysia. Based on clinical and pathology data, sudden death associated with the heart is caused by several mechanisms, namely acute myocardial infarction, myocardial ischemia without infarction, and primary arrhythmia. However, death is mostly caused by ventricular fibrillation. These situations are often known as heart attack by people. There are differences in time (morning, noon, evening, night) in the incident of sudden death, the highest incidence is at the beginning of the morning. Willic et al. reported that the highest incidence of sudden death from heart disease occurs between 7 and 9 in the morning reaching 70% over the other times. They mentioned that this condition is caused by an increase in sympathetic nervous system activity that is known to occur in the morning. This later causes the heart to become more susceptible to the state of arrhythmias (complexion and heart rate) [3] (Wahid, 1993).

Diseases of the cardiovascular system that cause sudden death are: Arteriosclerosis heart disease (Coronary thrombosis, Coronary occlusion, Myocard infarction), Congestive heart failure, Pulmonary embolism infarct, Aortic Aneurysm, Functional heart disease (arrhythmia / atrial fibrillation), non rheumatic acute myocarditis, Rheumatic myocarditis [2] (Satyo, 1990).

3 | CORONARYATHEROSCLEROSIS:

Approximately half of individuals who have coronary artery disease die suddenly. This is clearly

seen in forensic cases in Malaysia and in western countries, which show that coronary artery disease is the main cause (75%) for sudden death. In the Malaysian forensic section, this is not very noticeable because postmortem is not carried out on most individuals who experience coronary artery diseases and moreover the type of forensic cases encountered in Malaysia are very different from those found in western countries. In Malaysia the most frequent postmortem forensic cases are death due to traffic accidents and not cases of sudden death due to ordinary diseases. However, coronary artery disease is one of the main causes of sudden death in Malaysia if compared to other diseases [2] (Satyo, 1990).

Significant coronary artery blockage (risk of death) is blockage of the coronary artery lumen which exceeds 75% in the cross section of the artery. Victims who experience cardiovascular hypertension usually show concentric thickening of the coronary artery wall by atherosclerotic deposits rather than eccentric thickening of the coronary artery wall as usually seen in cases of coronary artery atheroma. In victims over the age of 60 years, coronary arteries are often stiff and calcified due to calcium build up in the artery walls [4] (PERKI, 2015).

Plaque that clogs more than 75% of the proximal cross section of the left coronary artery is the most critical one because the left coronary artery supplies most of the myocardial muscle in contrast to the right coronary artery which does not significantly supply myocardial muscle [3] (Wahid, 1993).

4 | ACUTE MYOCARD INFARCT:

Acute myocardial infarction (AMI) is acute myocardial necrosis due to significant disruption of coronary artery blood flow, as a result of coronary artery occlusion by thrombus or severe spasm that lasts for a long time [5] (Simadibrata *et al*, 2001)

5 | PERICARDITIS:

Pericarditis is inflammation of the parietal pericard, visceral or both. The aetiology varies from virus

(most often), germs, fungi, toxins, uremia, post-cardiotomy, acute cardiac post infarction, collagen diseases, malignancy and radiation. Visceral pericard is attached to the myocardium, while parietal pericard encases the pericardial cavity. The inner surface of the pericard is coated with elastic tissue and collagen. The pericardial cavity contains about 15-50 ml of fluid (with average of 30 ml). Pericardial fluid functions as lubricant, containing electrolytes and proteins such as lymph fluid. Stiffening of parietal pericard causes pressure in the pericardial cavity to increase rapidly and disrupts with ventricular filling. On the contrary, the parietal pericardium can stretch if the increase of fluid occurs slowly. The pericardial cavity can be filled with as much as 1000-2000 ml fluid without pressure increase if the fluid increases very slowly. However an increase of fluid > 200 ml in a short time can significantly increase intra pericardial pressure.

Pericardial response to inflammation varies greatly in the form of fluid accumulation (effusion) or blood, fibrin deposition, fibrous tissue proliferation, granuloma formation or calcification. General and important hemodynamic forms appear as typical features such as: acute pericarditis, pericardial effusion without tamponade, pericardial effusion with tamponade, constrictive pericarditis.

The hemodynamic effect of pericard effusion is determined by the amount of effusion, the speed at which effusion is formed and the elasticity of the pericard. Excessive or rapidly emerging pericardial effusions will inhibit ventricular filling, decrease end diastolic volume which causes stroke volume and cardiac output to decrease. Temporary compensation is tachycardia, but at a critical level it will cause circulatory disfunctions in the form of decreased blood pressure and impaired organ perfusion [6] (Rahman, 2017).

Cardiac tamponade is a disorder of ventricular filling due to elevated intra pericard pressure due to the presence of pericardial effusion which causes hypotension and impaired organ perfusion or compromised circulation [7–10] (Tonini, 2015).

6 | CASE REPORT :

A case of a 72-year-old man with initial BPL who lived at Medan Labuhan was reported. The victim was taken to the hospital by the police along with a request for a Visum et Repertum and corpse examination and autopsy were carried out. On the external examination, an old adult male corpse who didn't undergo circumcision was found, with 172 cm body length, fat stature, brownish skin color. Straight, graying black hair, difficult to pull out, and smell of formalin, livor mortis was found on the neck, back and waist, buttocks, upper arms, upper limbs which stayed even after pressure was given. Rigor mortis was difficult to resist. Decomposition was not found because the victim had been given formalin, widening of blood vessels in both inner eyelids were found, blood vessel dilation of sclera was found. Figure 1



FIGURE 1: The patient

Internal Examination. At the unveiling of the heart-covering-membrane, as much as 200 grams of blood clot was found with the heart weighs 740 grams.

Right atrium wall was torn into a gap with length cm, 0.05 cm wide with a distance of 10 cm from the apex cordis, 0.5 cm from the estuary of the lower vein, infiltration of blood was found around the wound with 4.5 cm long, 1 cm wide. Figure 2

7 | DISCUSSION :

From the body examination of the victim, I estimated that the victim had died more than 8-12 hours based

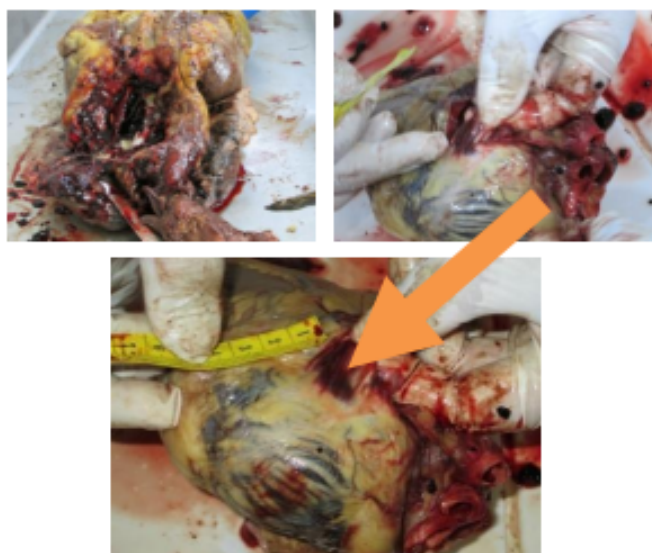


FIGURE 2: Right Atrium Torn.

on the signs found on the body of the victim such as of livor mortis that persisted on pressure and rigor mortis that was difficult to resist. Signs of decomposition could not be assessed because the victim had been preserved using formalin.

From the external examination, widening of the conjunctival blood vessels and sclera and the bluish colour of lips and fingers showed that the victim had asphyxia before he died. Whilst from the inner examination, blood clots in the heart bag and slit-shaped tear in the right atrium wall was found, heart blood vessels (coronary arteries) was narrow and the heart was enlarged, thus it was concluded that the cause of death was the bleeding in the cavity of the heart bag (bleeding of the pericardium cavity / haemopericardium) due to tearing of the right atrium wall due to heart disease suffered by the victim which in this case was coronary atherosclerosis.

Mechanism of the victim death: Before he died, he was bickering with another person which caused increased emotional, increased heart contraction, rupture of the heart, blood in the pericardial cavity, rapid increase of the pericard cavity pressure, impaired ventricular filling, decreased end diastolic volume that caused stroke volume and cardiac output to decrease, tachycardia (compensation of the heart), circulatory disfunction (asphyxia), death.

In this case the death of the victim was due to the rupture of the heart triggered by excessive and

explosive emotional response.

Every individual have a different emotional level, depending on how each person handles it. We need to know what are the causes of irritability, according to the expert's opinion, there are a number of medical conditions and drugs that cause emotions:

1. **Hyperthyroidism.** Occurs when the thyroid gland produces too much thyroid hormone. This condition is mostly experienced by women. According to Dr. Neil Gittoes, an endocrinologist at Birmingham University Hospitals and BMI the Priory Hospital, Birmingham, thyroid hormone affects our metabolic system. This will increase anxiety, nervousness, and difficulty to concentrate. Overactive thyroid can be the reason why we are easily angry and yell at our children, husbands or other people.
2. **Cholesterol drugs.** Statins that are prescribed as hypercholesterolemia drugs have side effects that cause irritability as well as losing patience. In a study conducted by researchers from the University of California, statins would lower serotonin, which causes an increase in depression and death.
3. **Diabetes.** A diabetic person who lacks blood sugar is also one of the causes of anger. Sugar levels imbalance in the body can cause serotonin imbalance in the brain. As a result, someone becomes more aggressive, confused, easily emotional, excessive anger and even panic attacks
4. **Depression.** Depression may be one of the causes of anger that is often experienced by people. According to Paulus Blenkiron, a psychiatrist at Bootham Park Hospital, New York, because of depression one can feel very irritable, nervous and bring out feeling of worthlessness, shame or guilt
5. **Autism.** This developmental disorder can affect normal brain growth as well as social function including emotional behaviour and personality. This can be the cause of irritability
6. **Sleeping pills.** Sleep medications like Benzodiazepines work by slowing down various brain functions. With a reduction in some functions, this sleeping drug can be the cause of one's anger and emotions increase
7. **Pre-menstrual syndrome.** We could often guess that when a woman gets easily irritated, it means that

she is having her period. It turns out menstruation is a cause of emotional behaviour in women.

Pre-menstrual syndrome (PMS) in women occurs due to imbalance of hormones such as estrogen and progesterone. Women become more irritable for no apparent reason. According to the American College of Obstetrics and Gynecology, a woman's mood can change during the last two weeks of the menstrual cycle or two weeks before menstruation.

8. Menopause symptoms. Menopause is a point when menstruation stops. This happens when the ovary stops making hormones that keep the cycle. The transition to menopause is called peri-menopause and can include hot and communication skills. Many sensory stimulating matters can cause irritability and increase the anger of people with autism.

9. Alzheimer. This disease is a form of dementia or senility that affects the brain flashes accompanied by sweat, reduced menstrual cycles and mood fluctuations, which are sometimes the cause of anger. The burning sensation usually occurs about 1 year after the last menstruation and last 4-10 years. Most women stop having hot flash 4 years after they start, but 10% of women may experience hot flashes for up to 12 years after the last menstruation.

10. Insomnia. Insomnia is a very common sleep disorder that prevents someone from falling asleep, keeping sleep, or combination of both. This condition can be treated with medication and behavioural changes. Symptoms that arise usually include fatigue, irritability, difficulty to concentrate, mild headaches, insomnia. Insomnia makes a person does not get enough rest, so it's no wonder that this sleep disorder is the cause of anger in insomnia sufferers.

8 | CONCLUSION:

Someone who is irritable and easily offended can give out negative auras that trigger stress and give bad effect to the entire office, household, or classroom. When feeling upset, anxious, angry, and fussy, our tolerance is lower and we are more likely to be disturbed by the kind of small frustration that we usually avoid. Our reaction to anger also tends to be far more aggressive than usual, leading us to be angry at the people around us. These conditions can

be overcome by the following 7 steps:

How to Stop Anger:

1. Find out the cause. The best way to reduce irritability is to find out what causes irritability - and then overcome it. Identify when we first become irritable and consider what might
2. make us angry. It is important to remember that it may feel complicated at that time, and problems that cause irritability may actually be simple.
3. Inhale deeply and slowly. Focus on each breath as it moves in and out, and try to spend more time exhaling than breathing.
4. Reduce physical tension, Try tensing each part of the body until a count of 10, then release
5. Meditation is one example of the mind fullness technique, and this can help to divert the mind from anger in emotional situation, especially after consistent practice.
6. Sports. Physical activity is a great way to vent anger or use excess adrenaline. Running fast or walking or fighting, such as boxing or martial arts, can be a useful way to let go of anger
7. Find alternative channels for anger, This method can help express anger in a way that limits the danger to others, such as tearing paper or news papers, destroying ice cubes on the sink, or punching a punchbag or screaming on a pillow.

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