## Case Report

# Injury to precordium to relieve pain

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**Abstract**

A case of sudden death of cardiac cause is presented where to relieve the pain of ischaemia the preccordial was rubbed forcefully and was brought in dead condition to casualty section of the hospital with injuries to precordium. The injury over precordium can itself lead to death of a person. If proper history is not available such injuries may be misinterpreted as homicidal. Being uncommon the case is presented.

**Key words:** *Myocardial infarction, anginal pain, precordial injuries& coronary thrombosis.*

## Introduction

Myocardial ischaemia clinically presents as severe pain and feeling of compression of chest. The patient may change posture on bed to get some relief of pain. Some times the patient may ask to press his chest to accompanying person and this may cause injury to chest wall. A case is presented, where due to forcefull rubbing on precordial area (to relieve pain of ischaemia), contusions and abrasions were found.

## Case History

A 51 years old male, a semi government organization servant, developed pain in his chest. He was received in dead condition at the casualty section.

At autopsy, on external examination, he was well nourished average built person. There was cyanosis of the fingernails. A reddish abrasion was found on precordium extending to midline measuring 14 x 8 cms directed towards midline.(Figure-1)

Internally the abrasion was associated with underlying contusion in intercostals musles. The heart was weighing 350gms. External surface showed whitish milky patch on left ventrical. On dissection, left ventrical was hypertrophied. (Figure-2) Whitish fibrotic areas of old intramural infarcts were present at places in the wall. The coronaries showed narrowing at ostea. (Figure-3) The left anterior descending branch showed calcification and narrowing.(Figure-4) Numerous atheromatous plaques were also found in ascending aorta. The organ pieces were preserved for histo pathological examination. There was no evidence of fresh myocardial infarction.

## Discussion

A heart attack may occur while at work, either incidentally by normal progression of a chronic disease process or due to unusual physical or mental strain. Some cardiologists feel that a heart attack never occurs after physical efforts, while others believe it can occur. If the attack occurs with in seconds or minutes after unusual effort, the causal connection can be established. Causal connection can be established with certainty only in direct trauma to the heart occurring during work. Attacks occurring few days later may be due to haemorrhage in an atherosclerotic plaque in the coronary artery which initially narrows the lumen, but later causes occlusion.

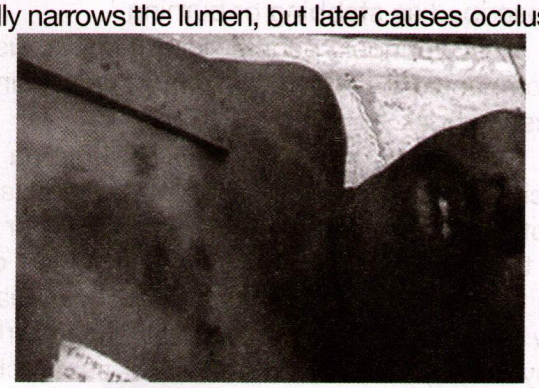

**Figure-1: Contusion to precordium**

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**Figure-2:Hypertrophy o f left ventricular wall with evidence of old intramural infarct**

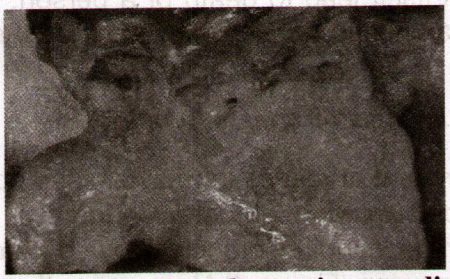

**Figure-3: Atheromatous plaques in ascending aorta with narrowing of ostea.**

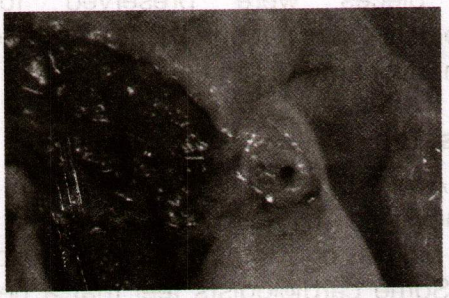

**Figure-4: Significant narrowing of Left anterier descending artery with about 10% patent lumen**

Pain is the most common presenting symptom in patients with myocardial infarction. The pain is deep and visceral; adjectives commonly used to describe it are heavy, squeezing and crushing, although occasionally it is described as stabbing or burning.[1]

In younger people infarction is usually accompanied by severe crushing chest pain and signs of shock.[2]

A blow or some physical trauma may precipitate a myocardial infarct or arrhythmia. The emotional upset that accompanies injury, or even the threat of fear of an injury, can cause death due to transient hypertension or tachycardia that may precipitate a subintimal haemorrhage, arrhythmias, or cerebral or subarachnoid haemorrhage. Physical effort which can damage a diseased heart in some cases can be traced to unusual job or to the performance of unfamiliar or unaccustomed work, to accidents or other trauma, and to the extra physical demands while working with defective equipment.

In peri-mortem injuries (that occur during the act of dying), haemorrhage may be seen involving the soft tissues. Contusion-abrasion of chest wall, fractures of ribs, fractures of the sternum, contusions of the heart, contusions and lacerations of the liver and spleen, rupture of the heart and duodenum usually occur during resuscitation.[3]

Ismailov RM et al[4] found that Independent of confounding factors and coronary arteriography (CA) status, Blunt Cardiac Injury (BCI) was associated with 2.6-fold increased risk for AMI in persons 46 years or older. When the diagnosis of AMI was confirmed by CA, BCI was associated with 8-fold risk elevation among patients 46 years and older and a 31-fold elevation among patients 45 years and younger. Abdominal or pelvic trauma, irrespective of confounding factors and CA status, was associated with a 65% increase in the risk of AMI among patients 45 years and younger and 93% increase in the risk of among patients 46 years and older. When the diagnosis of AMI was confirmed by CA, abdominal or pelvic trauma was associated with 6-fold risk elevation among patients 46 years and older.

In the present case the deceased was taken to hospital from a distance of 50 kilometers. To get some relief from the chest pain the person forcibly rubbed the chest causing injury.

## References


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