

An unusual case of sudden death in an alcohol addict

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Summary. The sudden and unexpected death of a 40-year-old female alcohol addict is described. At the autopsy recent rib fractures were found. The extremity of one fractured rib had caused a massive haemorrhage by erosion of a coronary artery.

Key words: Alcohol addict – Sudden death – Fractured ribs

Zusammenfassung. Beschrieben wird der plötzliche und unerwartete Tod einer 40-jährigen Alkoholikerin. Anlässlich der gerichtlichen Leichenöffnung, wurden frischere Rippenfrakturen festgestellt. Der Reibeeffekt der gebrochenen Rippen verletzte ein Herzkranzgefäß und führte zu einer massiven intrathorakalen Blutung, die als Todesursache gewertet werden muß.

Schlüsselwörter: Chronischer Alkoholismus – plötzlicher Tod – Rippenfrakturen

Case report

The victim, a 40-year-old woman, was found dead in bed by her man friend around noon. The man reported that C.G. had come home in a drunken state at around 11 o'clock the night before. During the night she had felt sick and had been to the bathroom several times. Around 6 a.m., just before leaving the house, her man friend had helped her to get into bed because she had collapsed. The deceased was a well-known alcoholic and lived with a man friend who was also an alcoholic. On several occasions the police had had to intervene in their fights, and the chemist close to the victim's home reported that she had asked him for help because of different injuries.

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Autopsy

The autopsy was carried out 1 day after death. The victim was 172 cm height and weighed 60 kg. Several haematomas of different ages were found, particularly on the extremities and the thorax, together with fractures of the following ribs: 3–9 on the left posterior side and 3–8 on the left anterior side. The fracture rims were rounded and showed the presence of granulation tissue. In addition, a pericardial laceration 1.5 cm in diameter, a haemopericardium estimated at 200 ml and a left haemothorax of 2000 ml were noted. On the left lateral side of the heart a 1.5 cm diameter area was found where the surface was matt and showed a small area of blood clot superimposed on a vessel. Both the injury and the pericardial laceration were very close to the edge of a fractured and considerably displaced rib.

The histological investigation revealed a layer of granulation tissue at the heart's surface (Fig. 1). The tissue was of recent origin and highly vascularized with a lymphoplasmocytic infiltrate. It enveloped clusters of myocardial fibres undergoing necrotic changes. In places, a fibrinous exudate was found on the surface.

The area including the superficial vessel was sectioned at different levels. In several of these sections, a small-sized artery was visible, and in some sections part of the vessel wall showed a focus of necrosis with total rupture of the vessel wall (Fig. 2).

Radiological investigations

Radiological investigation of the anterior fractures of ribs 6 and 7 was carried out on a preparation fixed in formal saline. The fractures show a granulation tissue and callus formation corresponding to fractures of several days' duration (Fig. 3).

Discussion

The mortality rate of alcoholics compared with that of the population at large has been studied by many authors [1–3], but the results reported differ from one study to another. Whereas some authors find that the

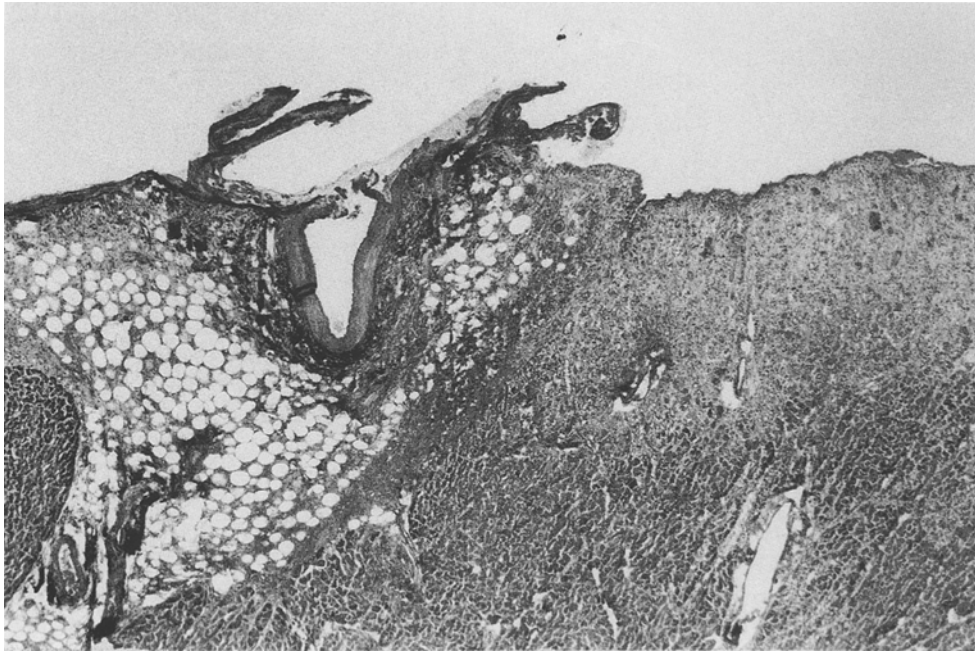


Fig. 1. Granulation tissue on the heart's surface

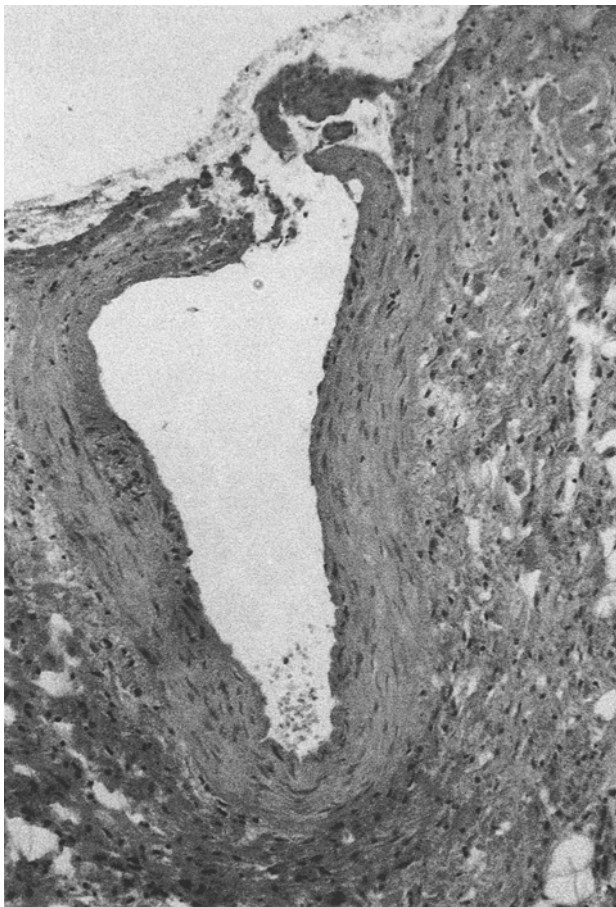


Fig. 2. Enlargement from Fig. 1 shows an area of necrosis and rupture of an artery on the heart's surface

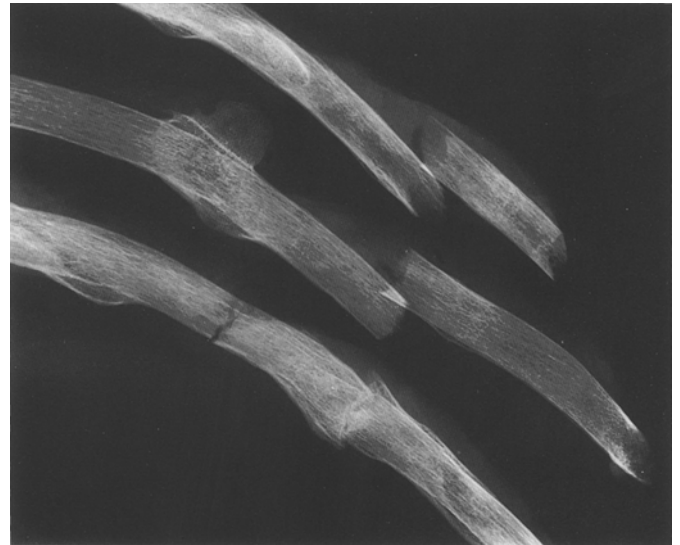


Fig. 3. Recent fracture of ribs 6 and 7 with displacement. Note also older fractures

mortality in alcoholics is lower than in the general population in relation to very specific groups [1], others state that it is higher in alcoholics [2, 3]. Sudden death also occurs more frequently among alcoholics [4]. Some authors have investigated the cases involving trauma, and more specifically those with rib fractures; their studies reveal that these lesions are frequent (in about 20% of the patients) and moreover that the patients are often unable to connect an old rib lesion, fortuitously discovered by thoracic radiography, with the corresponding traumatic event that produced it [5, 6].

The influence of ethanol on trauma is well established [7]; it acts on the central nervous system, causing a weakening of "protective" reflexes and an anaesthetic effect

which obliterates pain and memory of traumatic episodes. Alcohol also increases irritability and lessens the sense of responsibility, so that people under the influence of alcohol tend to take more risks, lose their temper easily and become involved in fights and other sorts of accidents.

The case reported here is the rather unexpected death of an alcoholic who was frequently a victim of falls and as a consequence suffered repeated costal traumas. The last traumatic event occurred in the week preceeding death, as shown by the anamnesis and the histological finding of granulation tissue. The ends of the fractured ribs protruded into the thoracic cage, so that with each heart beat the edges of the ribs rubbed against the heart's surface. The friction had first produced a pericardial erosion with no major consequence and then a direct epicardial erosion. Death occurred when a small-sized artery at the heart's surface has been injured and on rupture caused a massive haemorrhage.

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