Kematian Wajar Mendadak
(Sudden Natural Death)

dr. Setyo Trisnadi, Sp.K.F., S.H.

Kematian

Caranya :

- **Wajar**
  - **Penyakit**
  - **Usia tua**
- **Tidak Wajar**
  - **Pembunuhan**
  - **Bunuh diri**
  - **Kecelakaan**

- Prosesnya :

Mendadak
- Expected
- Unexpected

Tidak mendadak

Definisi kematian mendadak

Kematian yang terjadi dalam waktu 48 jam sejak timbulnya gejala (umumnya karena penyakit)

Penyakit penyebab SND

- Cardiovascular diseases :
  - Atheroschlerotic H.D
  - Hypertensive H.D
  - Other type (Congenital, Valvular, Myocarditis, Cardiomyopathy)
- Other Vascular diseases :
  - Ruptured Cerebral Aneurysma
  - Pulmonary Thromboemboli
  - Ruptured Aortic Aneurysma
  - Acute Aortic dissection
- Respiratory
  - Infection (Elderly, infant, immunocompromissed, AIDS, Cancer, TBC)
- Central Nervus System
  - Tumor
  - Colloid cyst
  - Meningitis
  - Seizure
- Chronic Alkoholism
- Unditermined Natural Cases

Respirasi

- Perdarahan : tbc, kanker, bronkiektasis, abses
- Asfiksia : pneumonia, asma/ppok, spasme
- Pneumothoraks

Kardiovaskuler

- Infark miokard dini:
  -perdarahan penampang otot jntung
  -makroskopis:
    >8jam: edem, kasar
    >18jam:brownish purple
    24-48jam: kuning dg tepi hiperemi
  -mikroskopis: >6jam: pmn eosinofil, otot memendek, sembab, membran sel kabur, sel intersisiel banyak

lanjutan

- Infark lama:
  - -makroskopis: fibrosis-scar
  - -mikroskopis: nekrosis, pmn basofil, disintegrasi inti sel
- Penyempitan a. koronaria-insufisiensi-infark miokard

Susunan Saraf Pusat

- Perdarahan: apopleksi, ruptur, neoplasma
- Sumbatan sirkulasi: trombosis, emboli, infeksi, malaria serebral

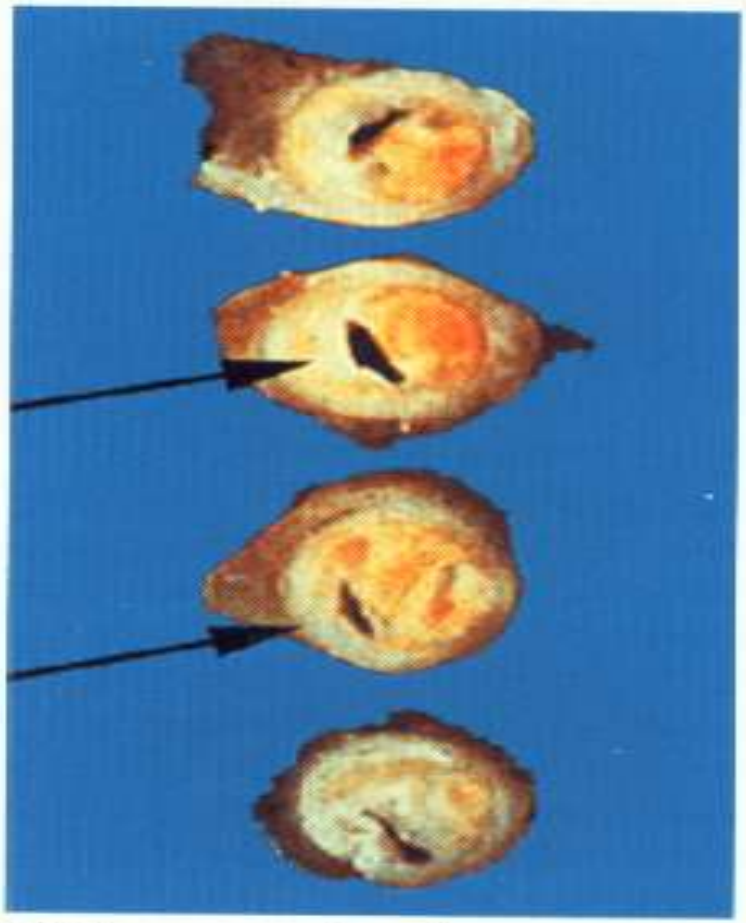


FIGURE 5.2 These cross-sections of coronary arteries are plugged with atherosclerotic disease (hardening of the arteries). The arrows point to the only openings (dark areas) in the vessels. The yellow material is the atherosclerosis.

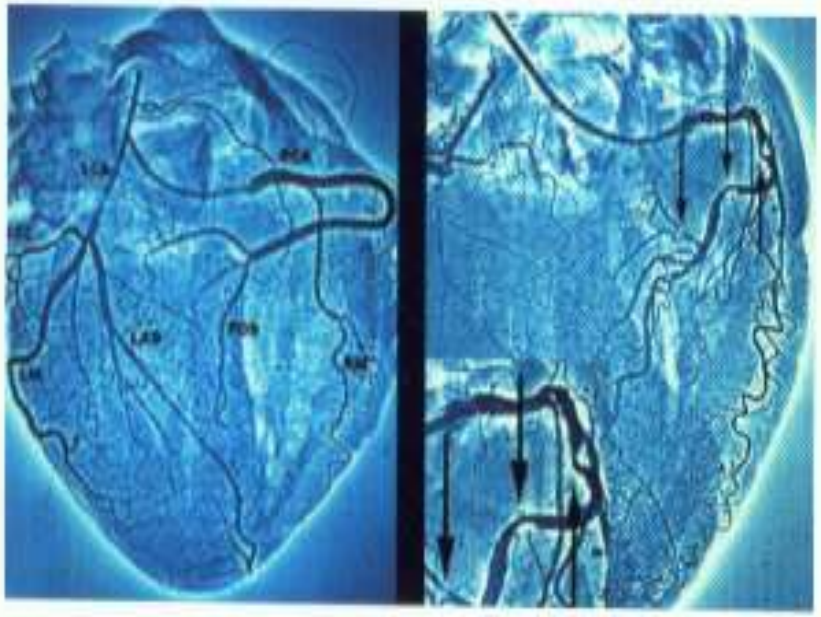


FIGURE 5.1 These are hearts that have been injected with dye postmortem. The heart on the left has normal undamaged coronary arteries. The heart on the right has narrowed blood vessels (arrows) due to atherosclerosis (hardening of the arteries).

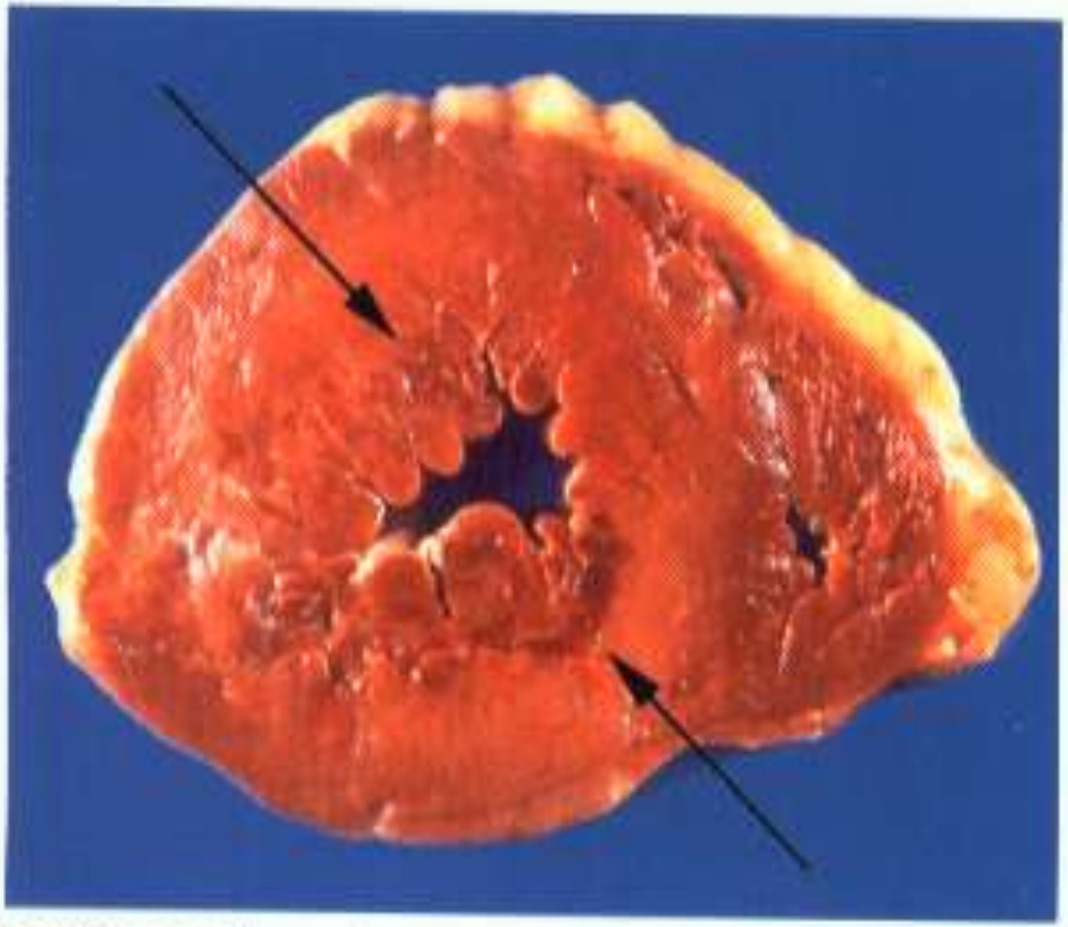


FIGURE 5.3 The earliest noticeable signs of a heart attack is dark colored muscle (arrows). This discoloration reveals the heart attack to be hours old at the time of death.

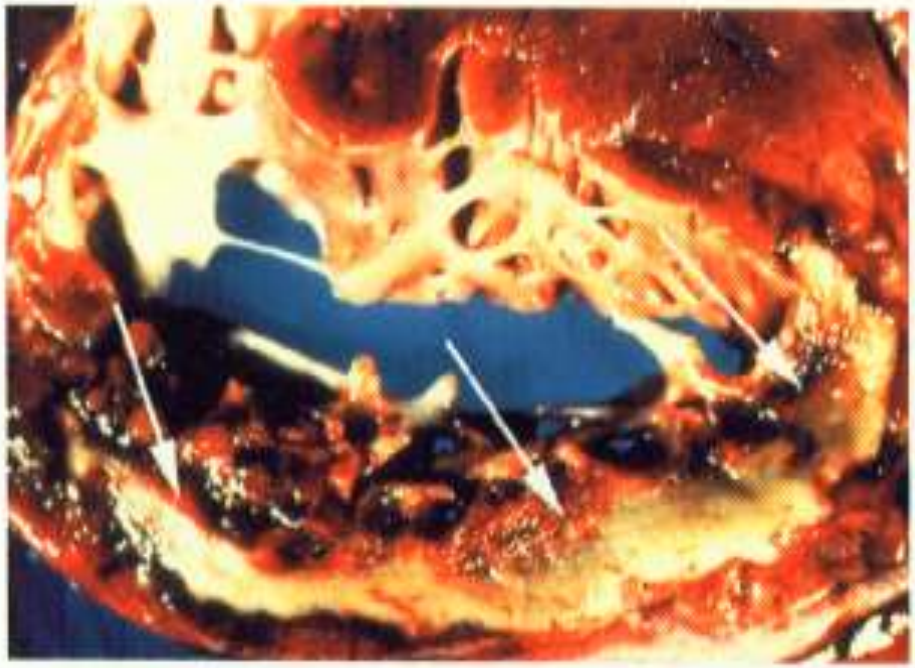


FIGURE 5.4 This heart shows the yellow discoloration of a heart attack which is approximately a week old (arrows).

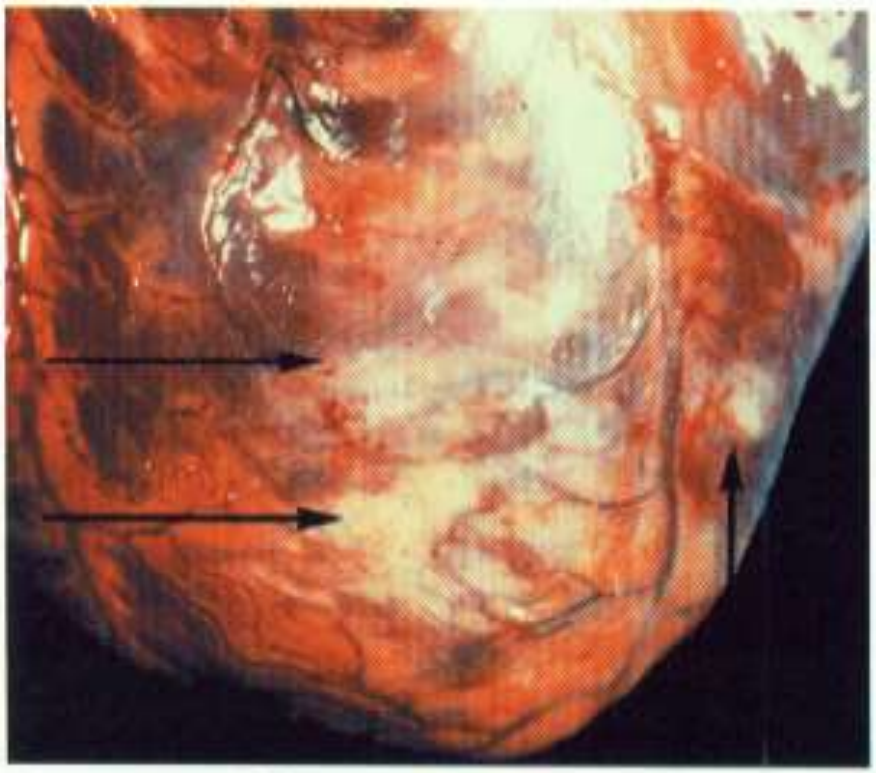


FIGURE 5.6 An old heart attack will appear as a white scar on the outside of the heart wall (arrows).

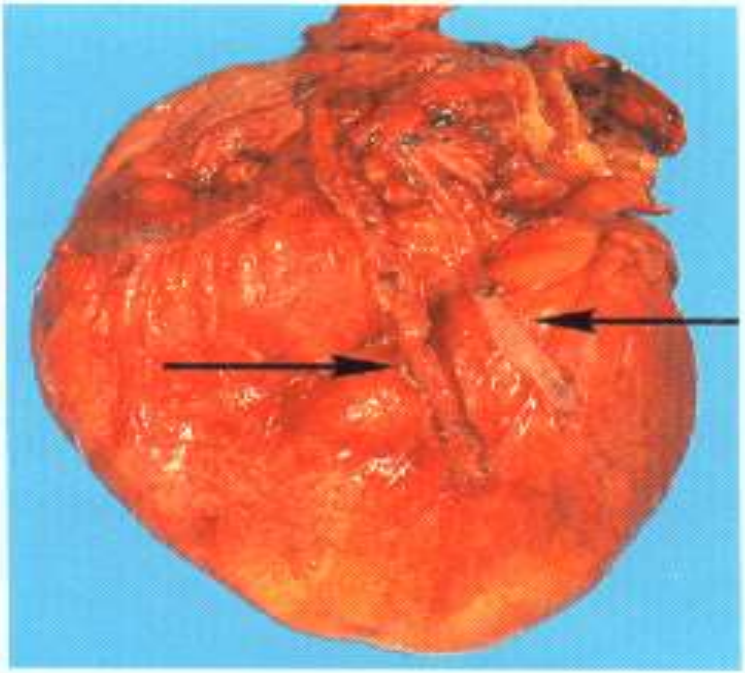


FIGURE 5.8 Coronary bypass. The arrows reveal the veins that have been used to jump across the plugged coronary arteries. The veins usually come from the legs.

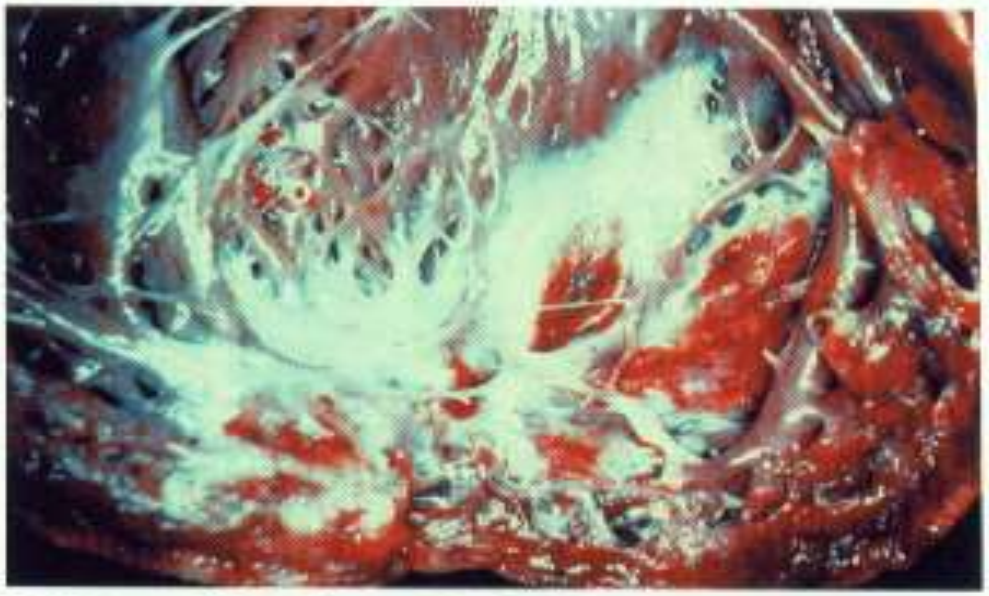


FIGURE 5.5 This is the inside of the left ventricular heart wall showing the white scarring from an old heart attack.

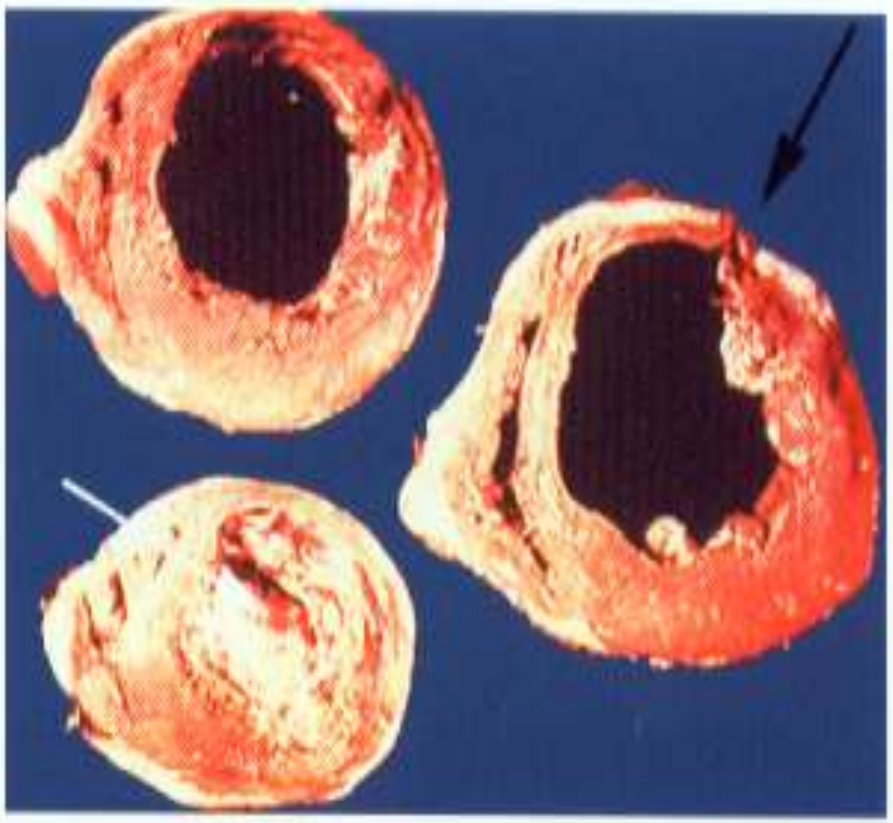


FIGURE 5.7 The complications of heart attacks include a rupture of the heart wall (black arrow) and the formation of a blood clot (white arrow).

FIGURE 5.9 This man was discovered in a recreation center. His position suggests a sudden collapse and death. See next photo.

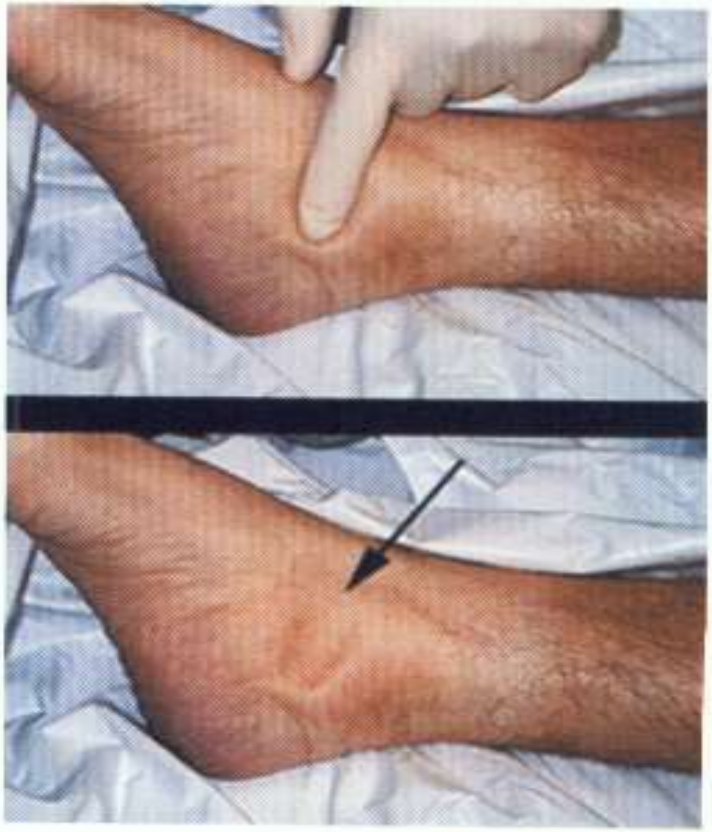
FIGURE 5.10 His clothes had been removed and neatly placed on the bench. See next photo.

FIGURE 5.11 He was wearing a condom. The woman he had been with later confessed he had collapsed suddenly prior to having sex. An autopsy revealed significant coronary artery disease and numerous old heart attacks.

FIGURE 5.12 This obese man died suddenly. The arrow points to the dark and thickened skin of the lower legs, which is a sign of poor circulation and heart disease.

skin of the lower legs, which is a sign of poor

FIGURE 5.13 Swelling of the ankles is a sign of heart failure. See next photo.



ed

FIGURE 5.15 An enlarged heart is a sign of chronic heart failure. This heart (between the arrows) is more than twice the size of normal. See next photo.

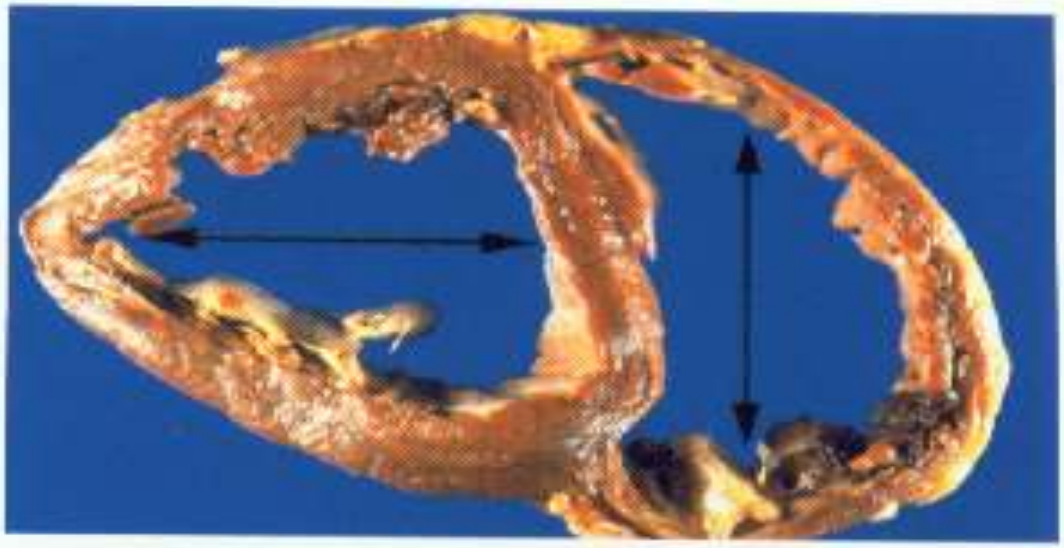


FIGURE 5.16 A cross-section of the heart in the previous photo would look like this. The chambers are dilated and the walls are thinner than normal.

FIGURE 5.13 An enlarged heart is a sign of chronic heart failure. This heart (between the arrows) is more than twice the size of normal. See next photo.

FIGURE 5.14 A cross-section of the heart in the previous photo would look like this. The chambers are dilated and the walls are thinner than normal.

FIGURE 5.17 Obese individuals have enlarged hearts and are prone to die suddenly. See next photo.

FIGURE 5.18 An enlarged heart from obesity or high blood pressure (top) may be twice the size of normal (bottom).

FIGURE 5.19 The wall (arrows) in this cross-section is very thick. This is a sign of hypertension (high blood pressure).

FIGURE 5.18 An enlarged heart from obesity or high blood pressure (top) may be twice the size of normal (bottom).

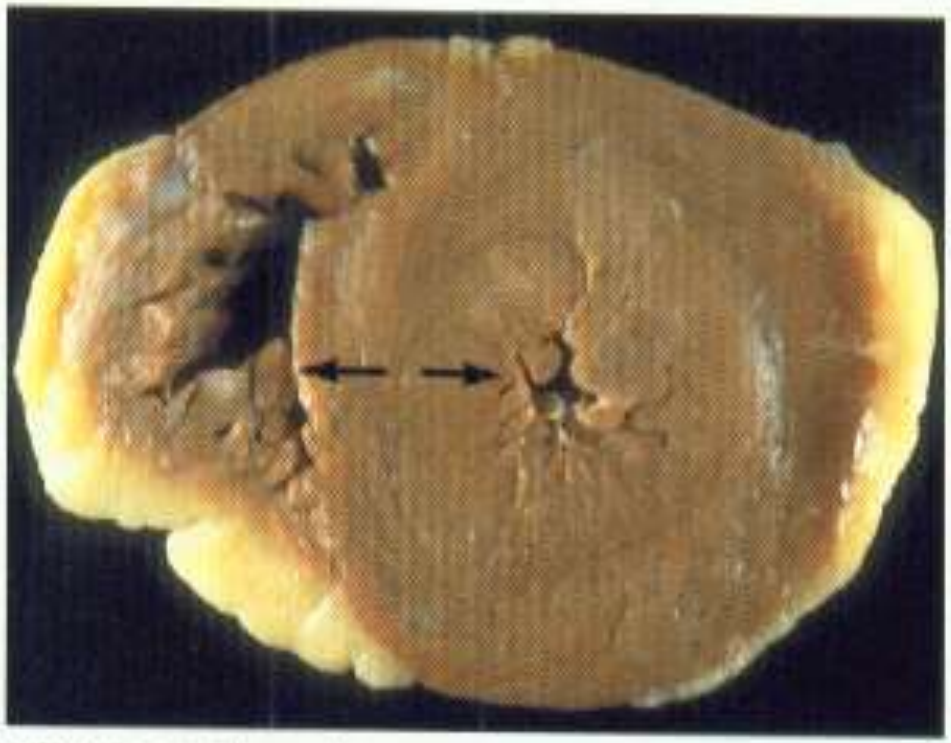


FIGURE 5.19 The wall (arrows) in this cross-section is very thick. This is a sign of hypertension (high blood pressure).

FIGURE 5.20 This is a normal aortic valve. See next photo.

FIGURE 5.20 This is a normal aortic valve. See next photo.

FIGURE 5.21 This aortic valve has vegetations of bacteria (arrows) from possible chronic drug abuse. Compare with previous photo.

FIGURE 5.22 Normal mitral valve. See next photo.

FIGURE 5.23 Abnormal mitral valve with thickened leaflets. This is a "ballooning" mitral valve which caused sudden death. Compare with previous photo.

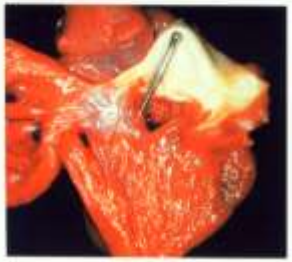


FIGURE 5.24 The metal probe is sticking through a ventricular septal defect (opening) which is a congenital abnormality which can cause sudden death.

FIGURE 5.25 This is another septal defect in a three-year-old child who occasionally stopped breathing and would turn blue. The defect was not detected at birth or upon regular check-ups.

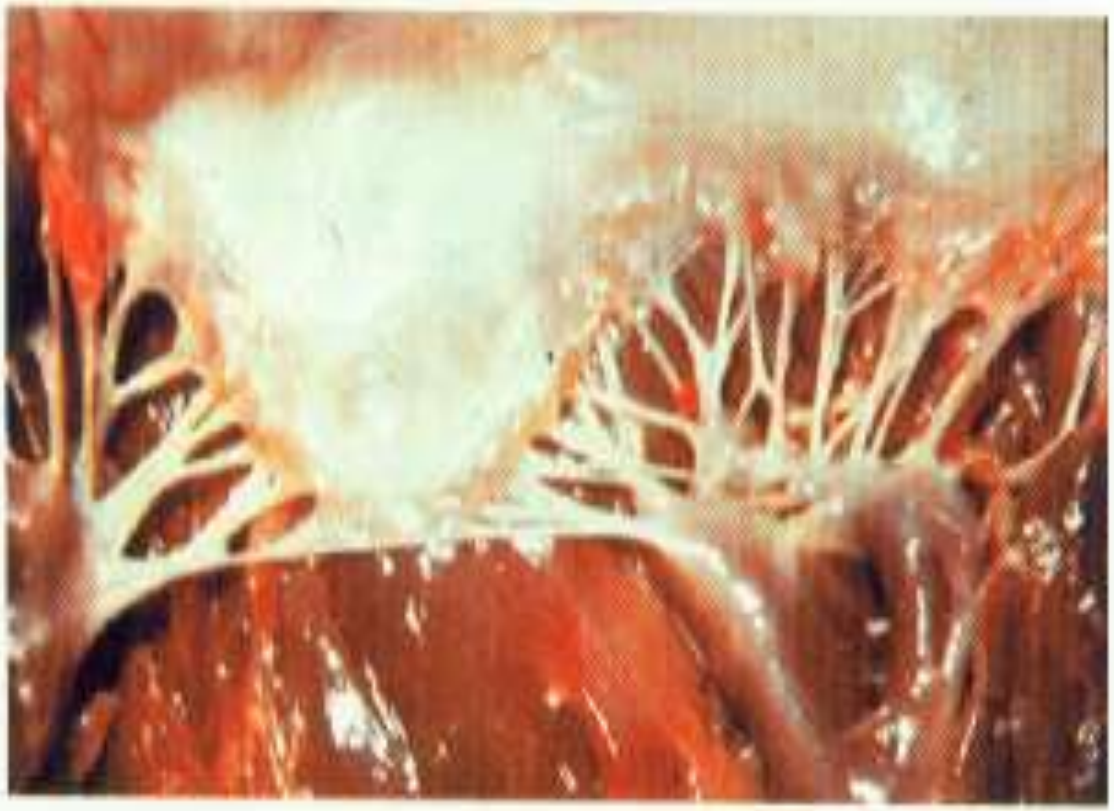


FIGURE 5.22 Normal mitral valve. See next photo.

FIGURE 5.20 This is a normal aortic valve. See next photo.

FIGURE 5.21 This aortic valve has vegetations of bacteria (arrows) from possible chronic drug abuse. Compare with previous photo.

FIGURE 5.22 Normal mitral valve. See next photo.

FIGURE 5.23 Abnormal mitral valve with thickened leaflets. This is a "ballooning" mitral valve which caused sudden death. Compare with previous photo.

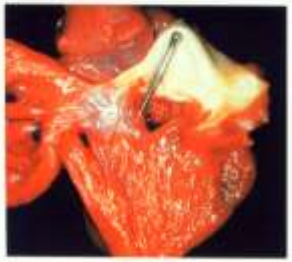


FIGURE 5.24 The metal probe is sticking through a ventricular septal defect (opening) which is a congenital abnormality which can cause sudden death.

FIGURE 5.25 This is another septal defect in a three-year-old child who occasionally stopped breathing and would turn blue. The defect was not detected at birth or upon regular check-ups.

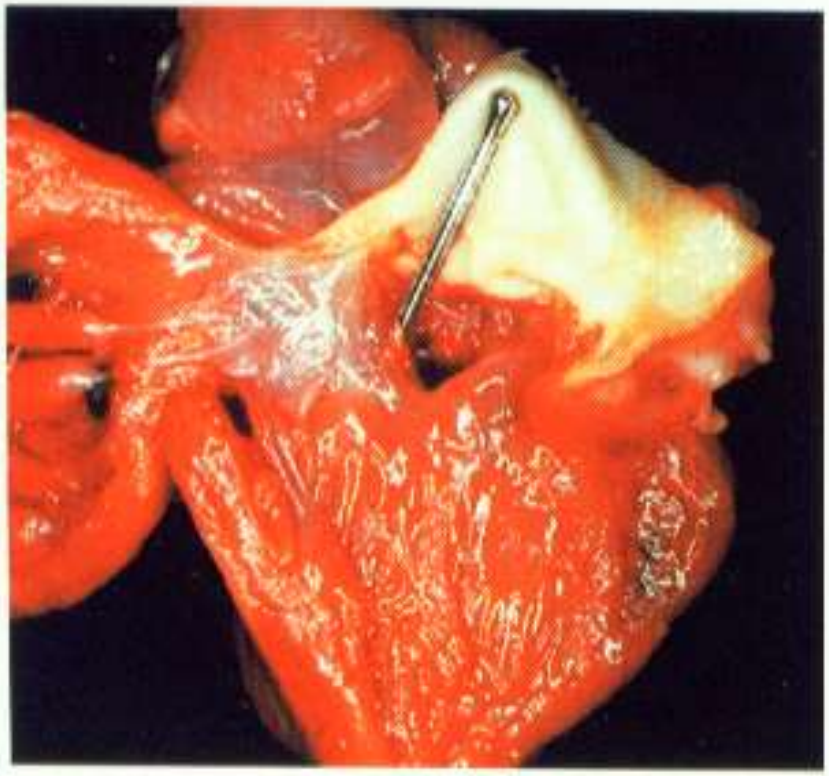


FIGURE 5.24 The metal probe is sticking through a ventricular septal defect (opening) which is a congenital abnormality which can cause sudden death.

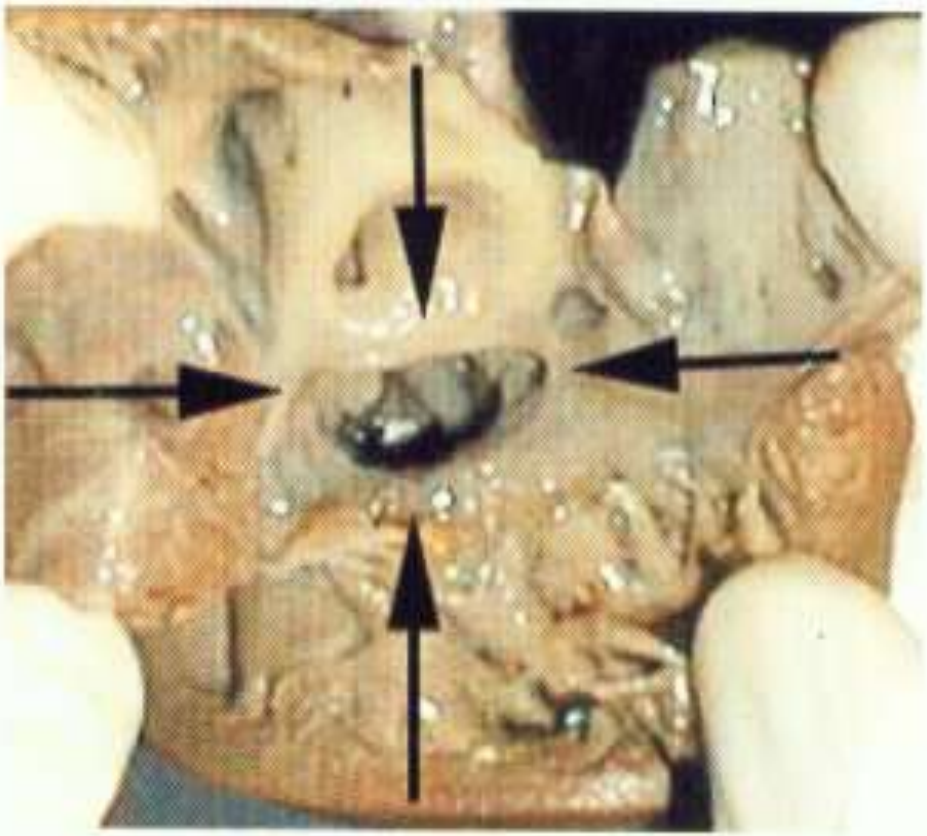


FIGURE 5.25 This is another septal defect in a three-week-old child who occasionally stopped breathing and would turn blue. The defect was not detected at birth or upon regular check-ups.

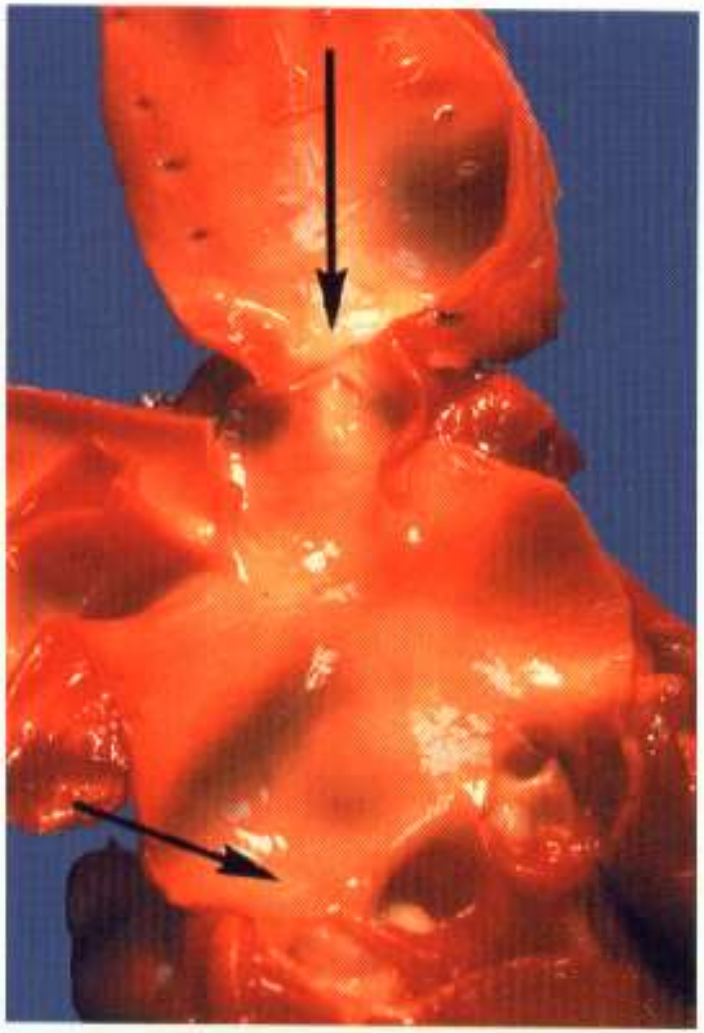


FIGURE 5.26 The aortic arch in this child was congenitally narrowed. The upper arrow shows the constriction. The lower arrow points to the aortic valve.

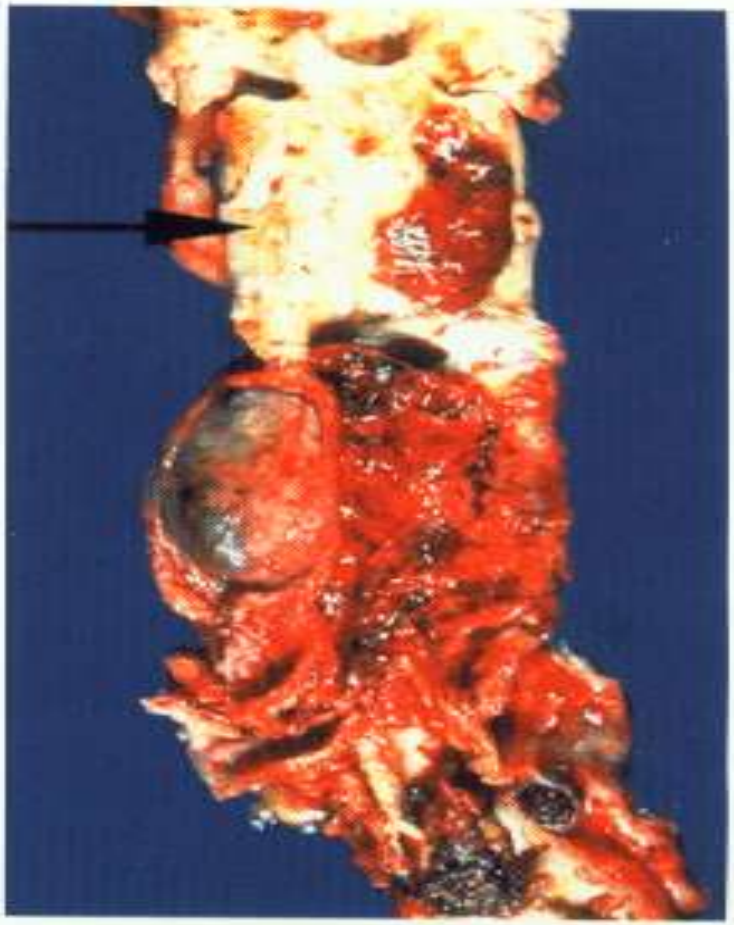


FIGURE 5.27 This is the lower part of the aorta which shows advanced atherosclerotic disease. A normal aorta should be thin and yellow (arrow). This aorta is thickened and has so much wall damage it is prone to rupture.

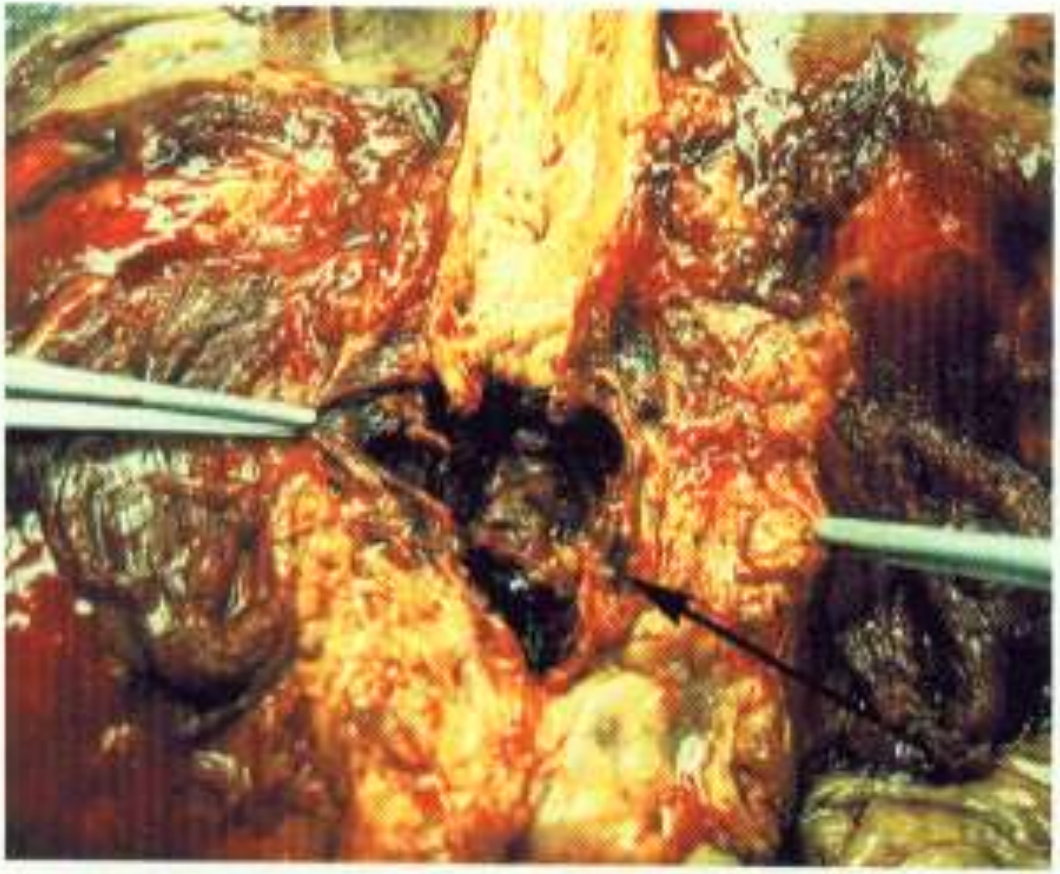


FIGURE 5.28 This aorta ruptured into the bowel and caused sudden death by bleeding. The initial body examination might show bleeding from the rectum

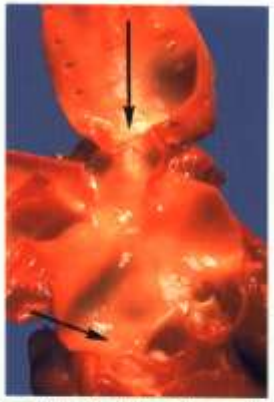


FIGURE 5.29 This lady's left leg is more swollen than the right. Blood clots in the legs will cause them to swell. A blood clot can break loose, travel through the heart, and plug up the blood vessels in the lungs. See next photo.

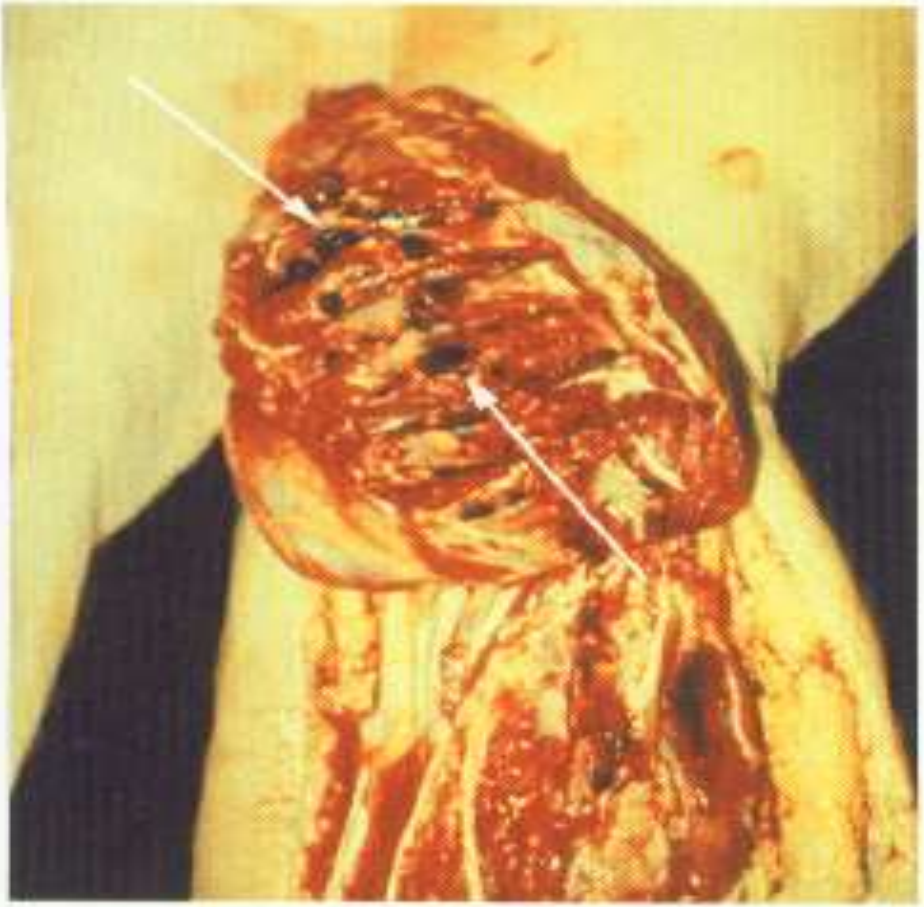


FIGURE 5.30 This swollen leg was opened to reveal the dark blood clots (thrombi) in the calf muscle vessels (arrows).

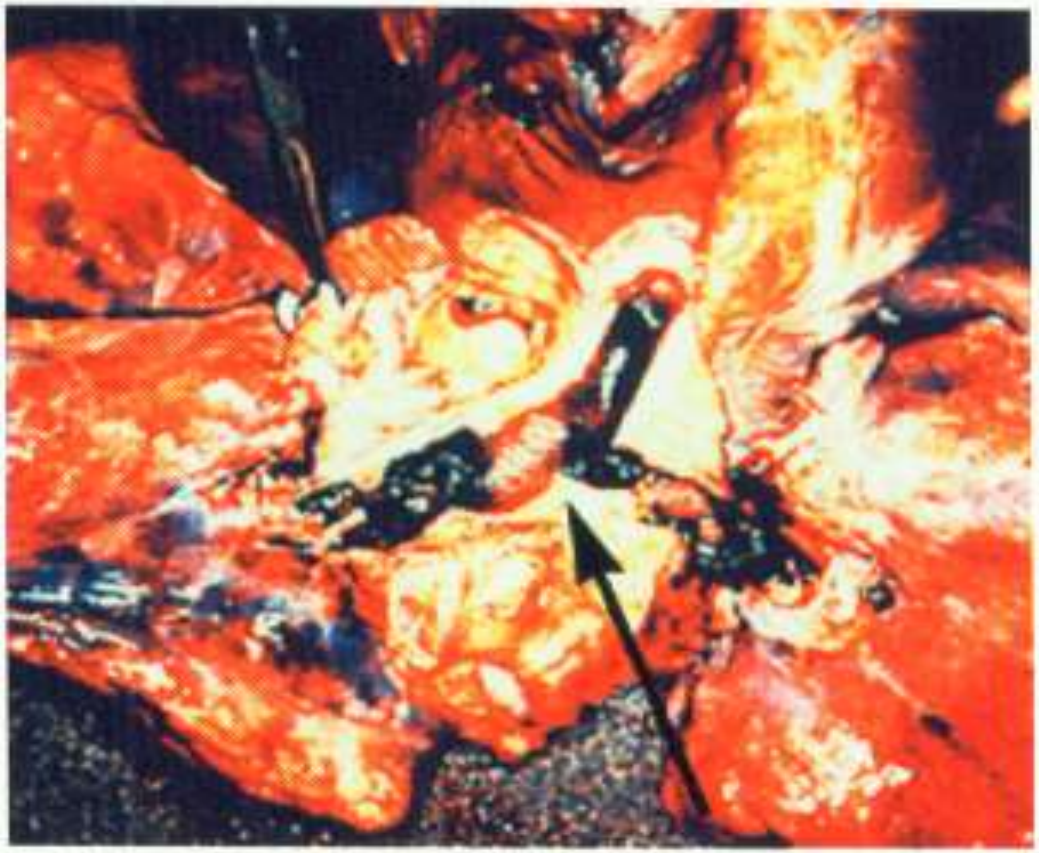


FIGURE 5.31 Pulmonary thromboemboli. Blood clots (arrow) have broken away from the legs and traveled up the body to lodge in the large blood vessels of the lungs. This caused chest pain and sudden death.

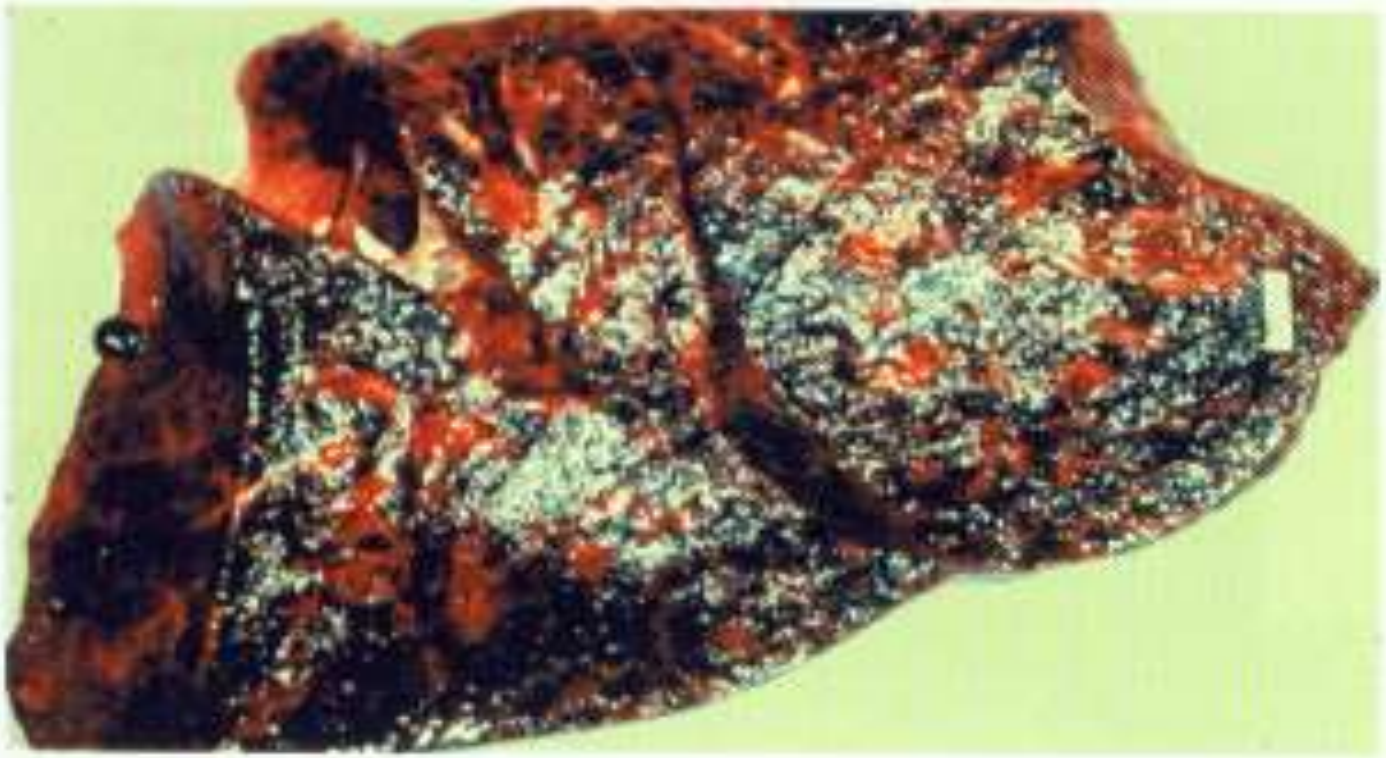


FIGURE 5.32 This lung has abundant black pigment (anthracosis) on its surface. The person with this lung either smoked or worked in a coal mine.

FIGURE 5.33 These lungs have dramatic emphysema with balloon-type expansions on their surfaces (arrows). This means the lung tissue has been destroyed (usually from smoking) and the person has difficulty getting oxygen into the lungs.

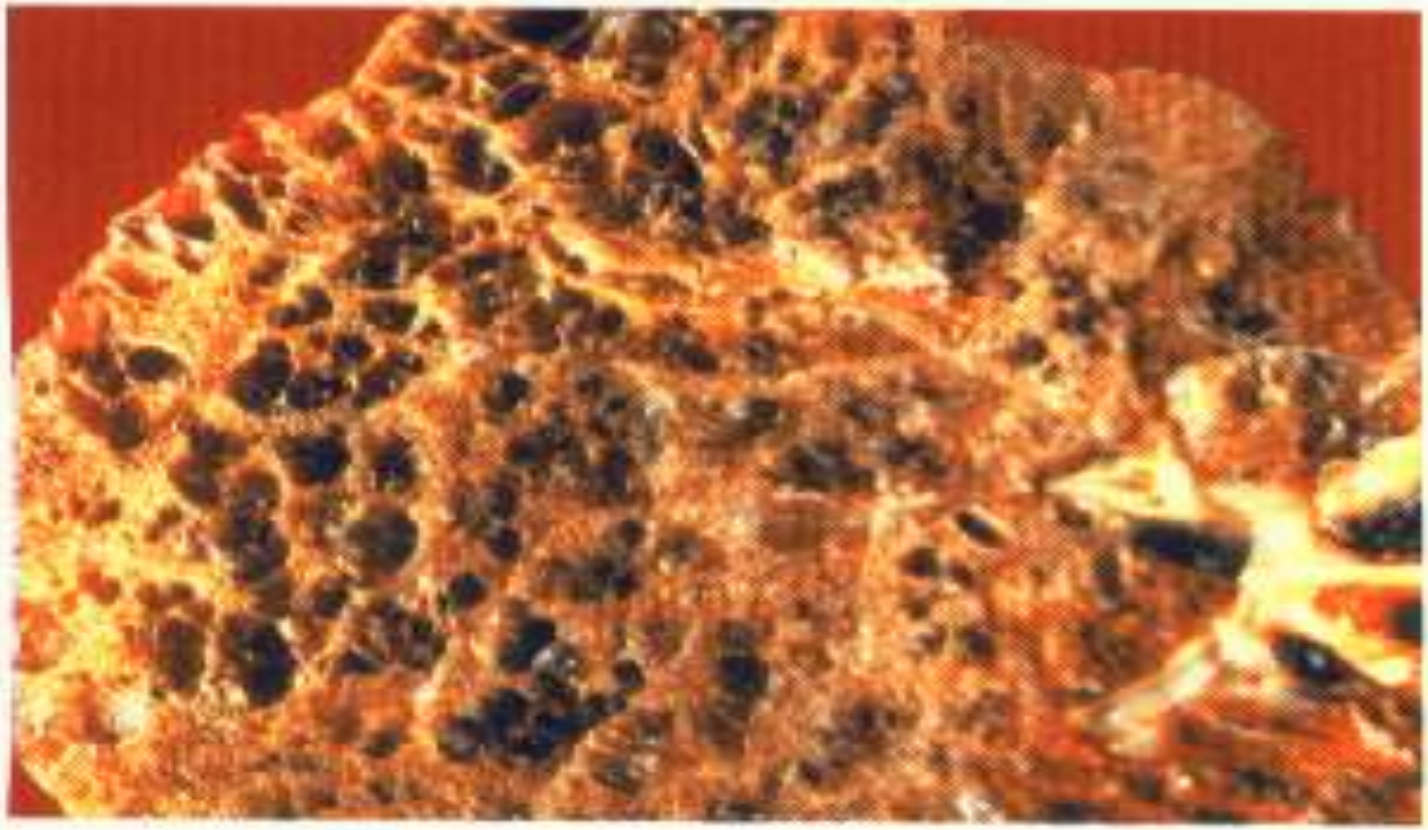


FIGURE 5.34 This lung has smaller holes than the previous case. This sponge-like appearance is also typical for advanced chronic emphysema.

FIGURE 5.35 Another presentation of emphysema showing the holes in the lungs caused by smoking. This change causes the right side of the heart to thicken which renders it prone to failure.

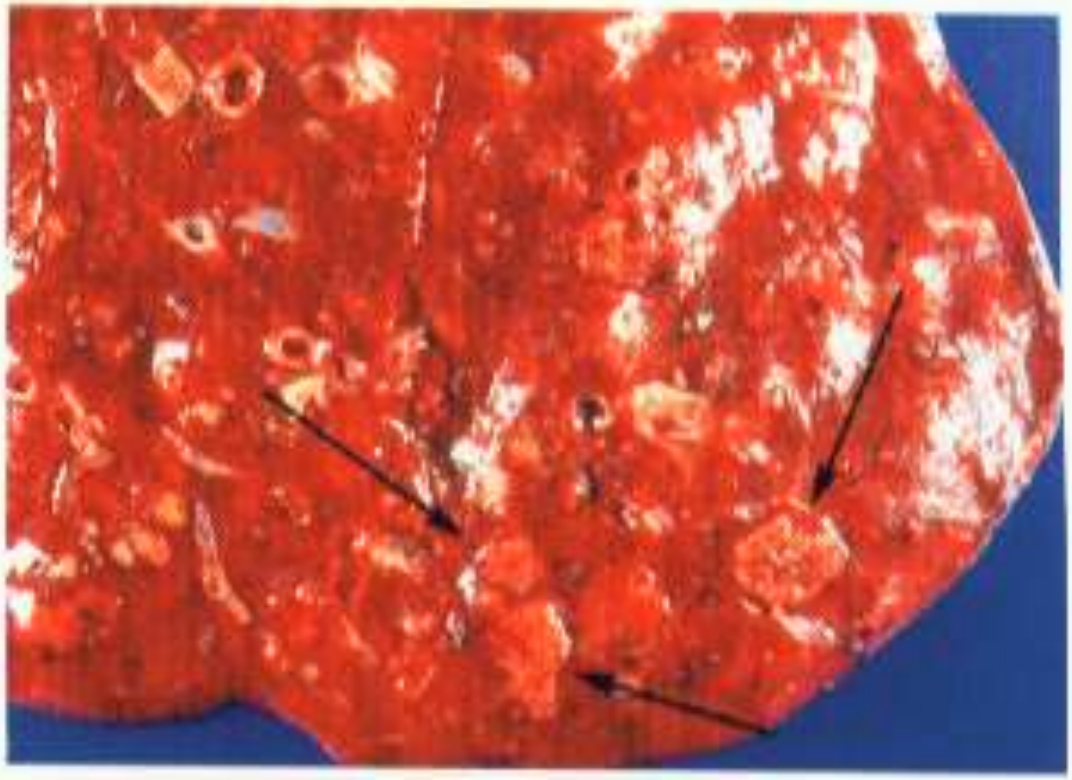


FIGURE 5.36 This lung has firm white areas (arrows) of pneumonia.

FIGURE 5.37 Sudden death in the bathtub. He ruptured a cerebral (brain) aneurysm.

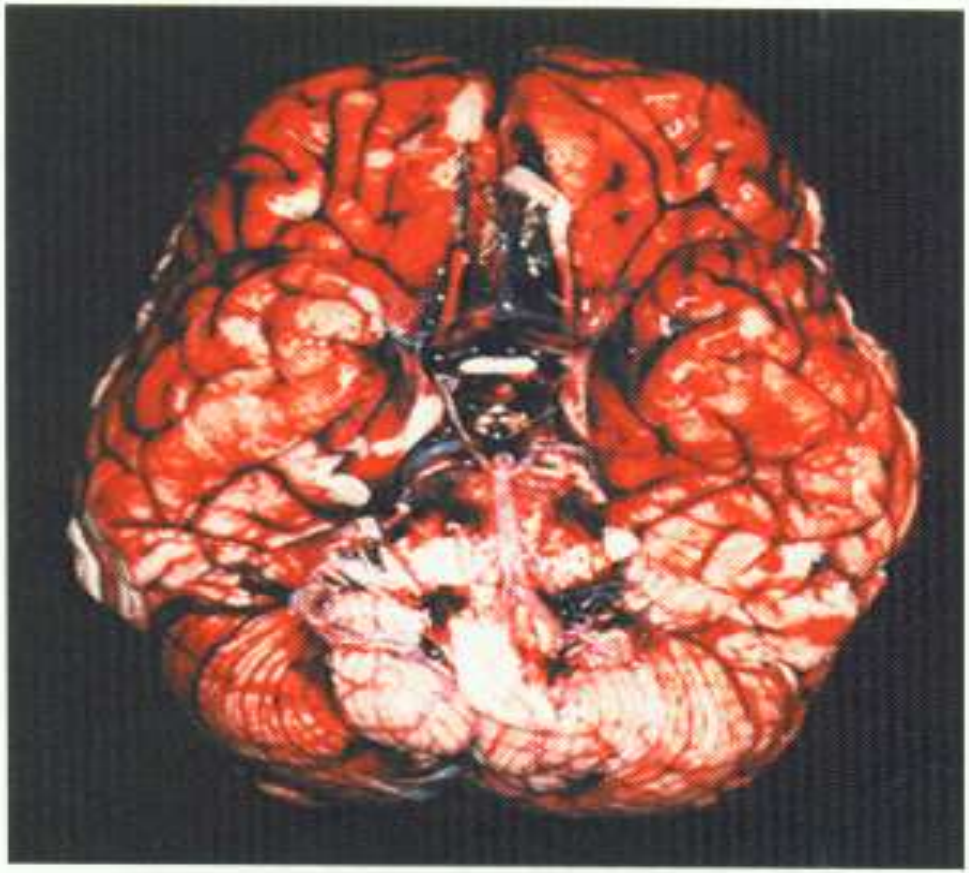


FIGURE 5.38 Ruptured cerebral aneurysm. A ballooned blood vessel ruptured over the bottom of this brain. This caused a marked hemorrhage (subarachnoid) over the base, sides, and top of the brain.

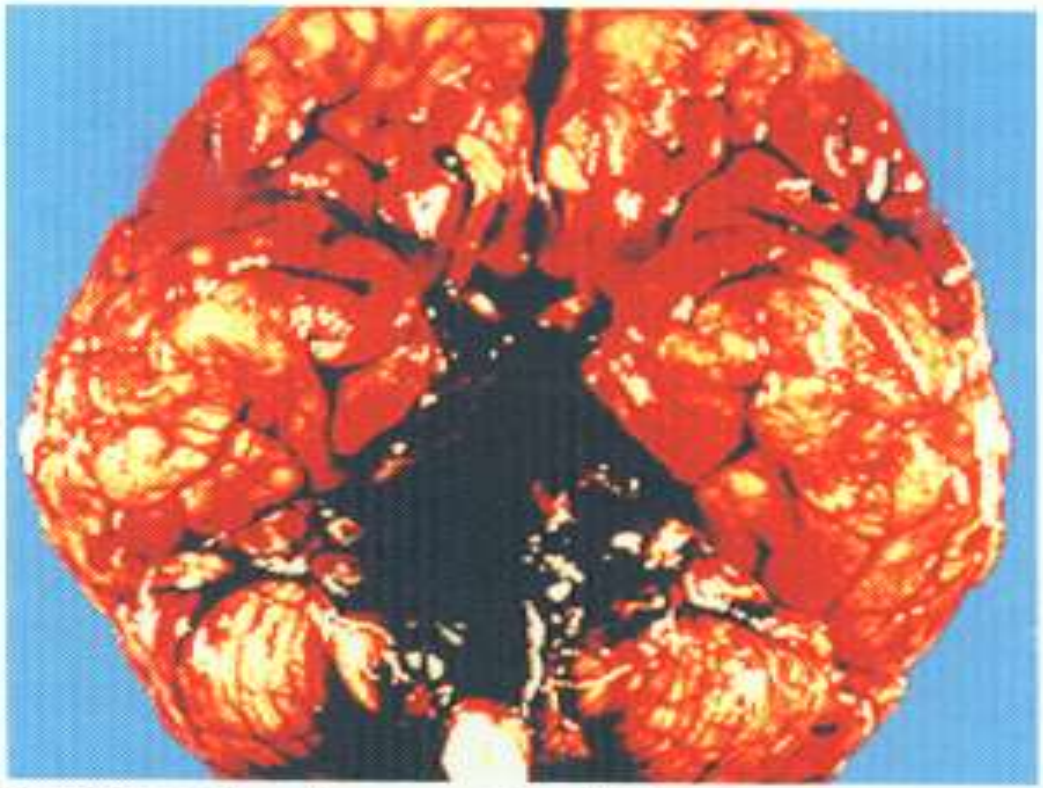


FIGURE 5.39 Another case of marked subarachnoid hemorrhage originating over the base of the brain. Most of these hemorrhages occur naturally from ruptured aneurysms; however, some can be caused by minor trauma or rupture secondary to drugs such as cocaine and methamphetamine.

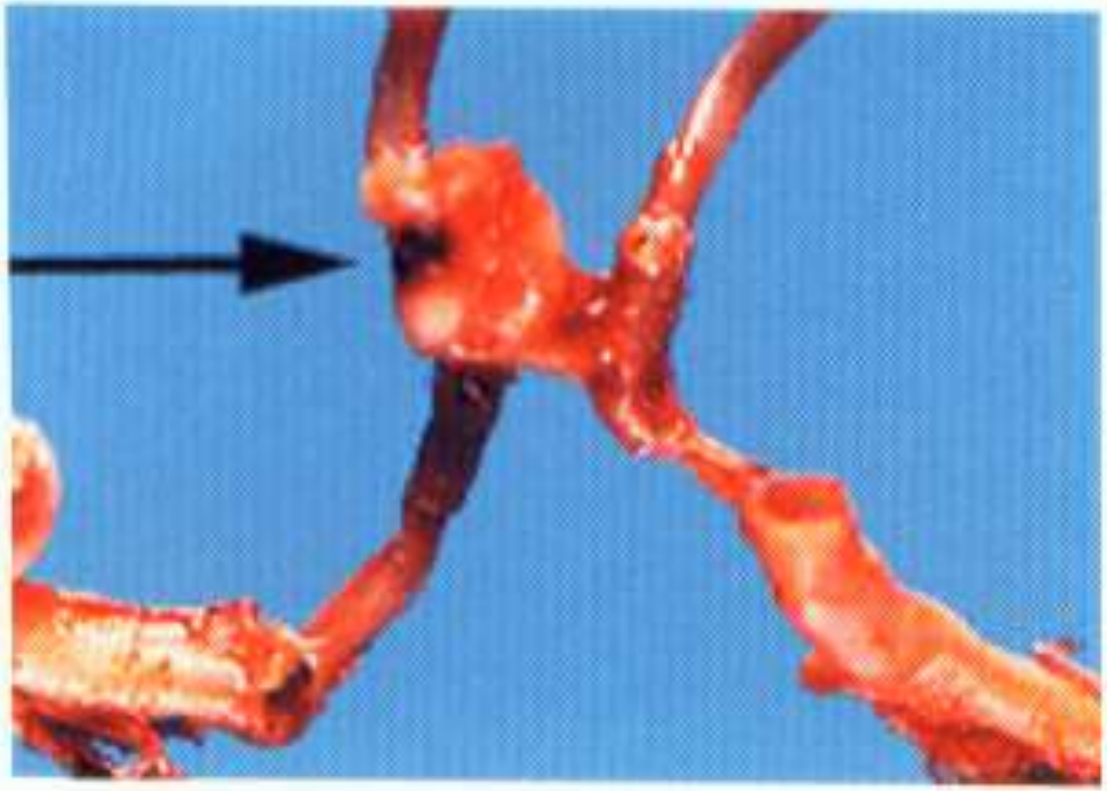


FIGURE 5.40 This is an aneurysm (ballooned-out blood vessel) which was located on the base of the brain. It ruptured and caused death.

FIGURE 5.41 The darker masses are cancer of the brain. Brain cancer rarely causes sudden unexpected death, but it may.

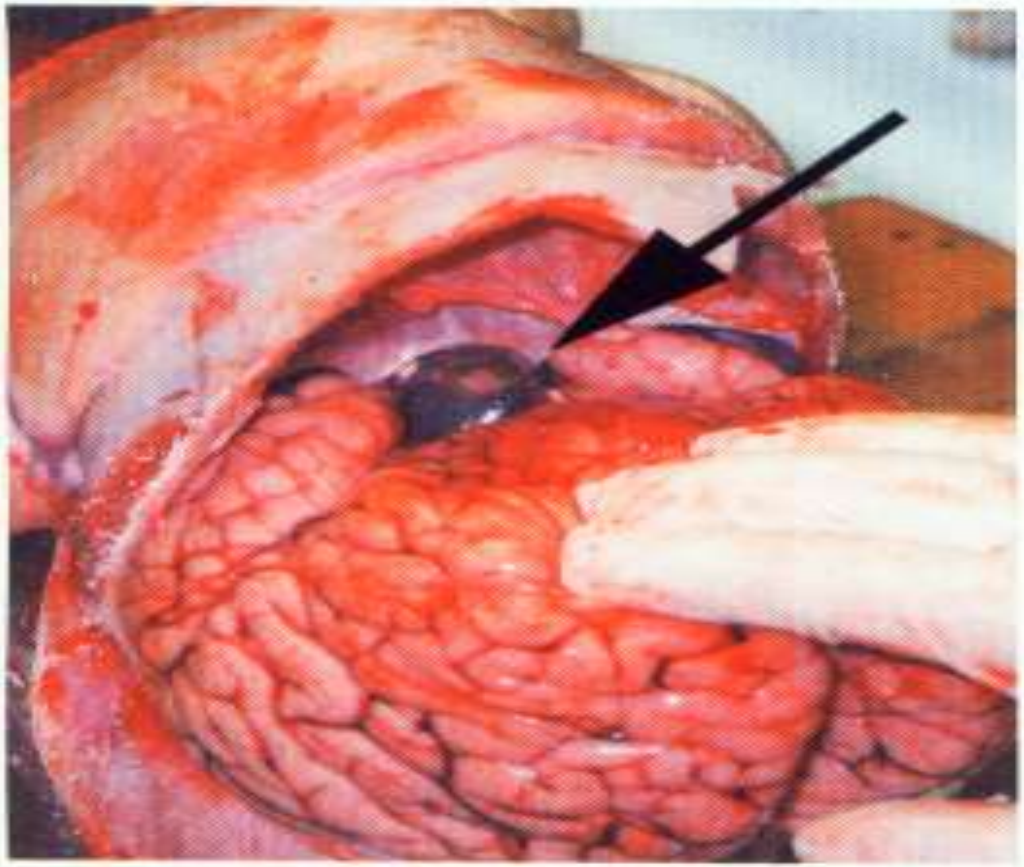


FIGURE 5.42 This area of swelling at the base of the brain was the finding in the sudden death of an eight year old. He complained of a headache the night he died. See next photo.

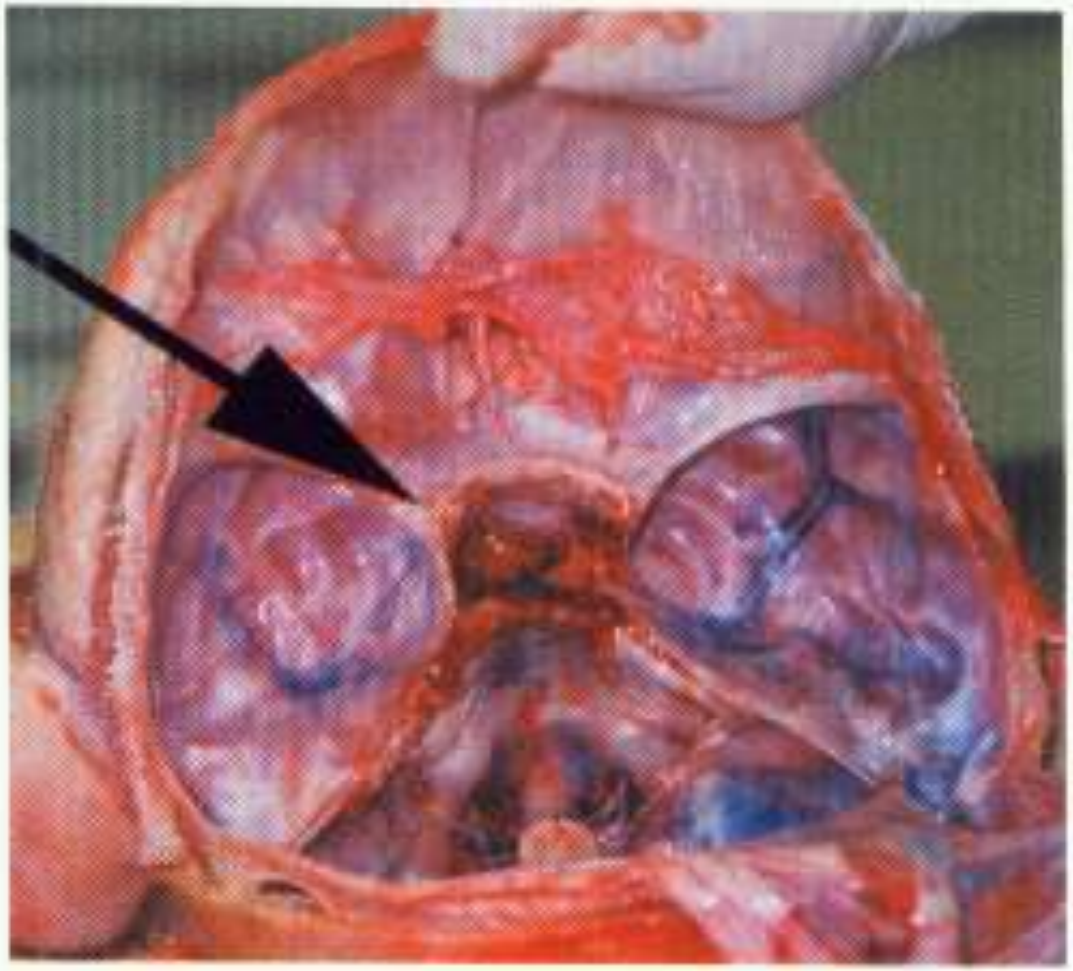
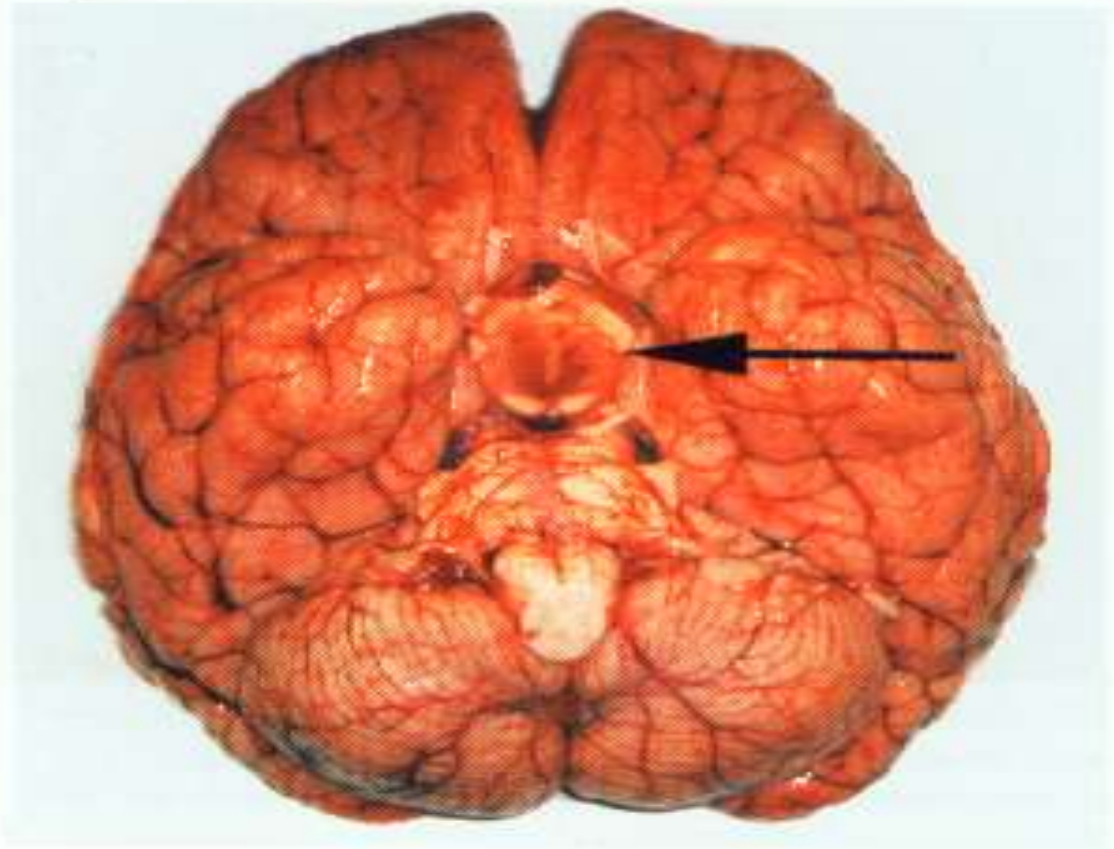


FIGURE 5.43 The pituitary gland rests in this area at the base of the skull. This area is much more expanded than usual due to the growth of a tumor. See next photo.

to the growth of a tumor. See next photo.



e

FIGURE 5.44 This photo of the base of the brain shows the area of the tumor.

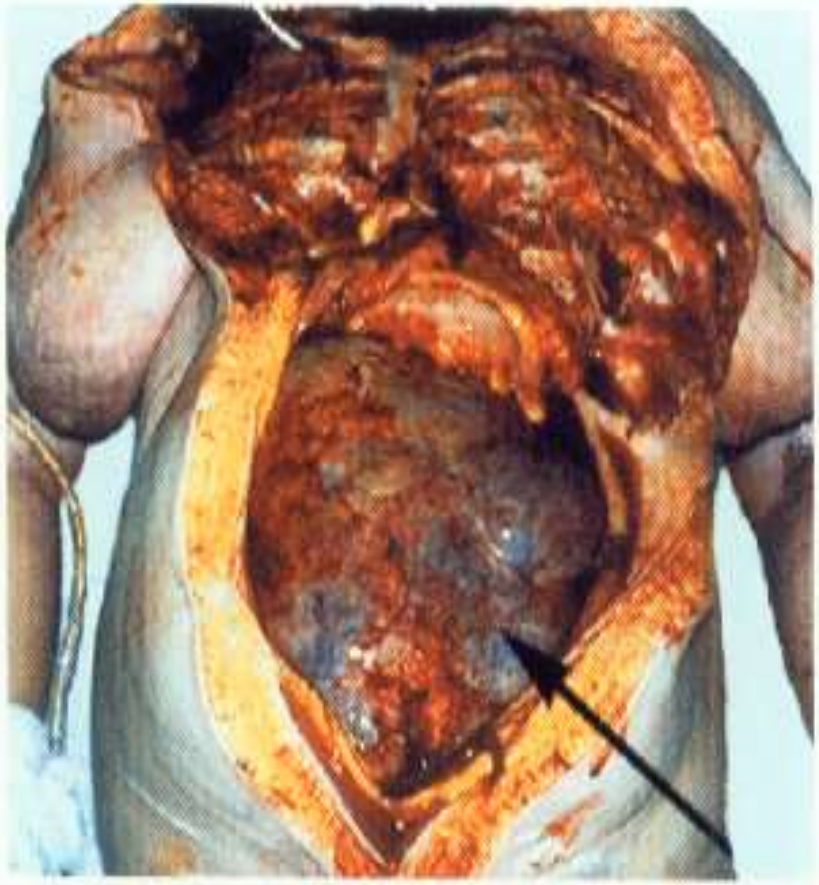


FIGURE 5.45 This lady came into the emergency room and died within a few hours. No one knew she had a huge tumor in her abdomen. See next photo.

FIGURE 5.46 The tumor was of ovarian origin and it weighed 26 lbs.

FIGURE 5.45 This lady came into the emergency room and died within a few hours. No one knew she had a huge tumor in her abdomen. See next photo.

FIGURE 5.46 The tumor was of ovarian origin and it weighed 26 lbs.

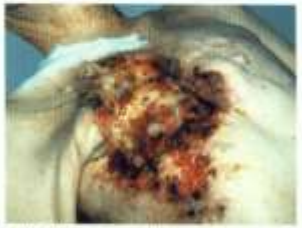


FIGURE 5.47 This is cancer of the breast after treatment. The woman died at home. The cancer had spread (metastasized) throughout her body. Breast cancer is rarely a cause of sudden and unexpected death.

FIGURE 5.48 This woman had received treatment for cancer of the lung. There was a hole in her chest wall (arrow) through which the lung could be seen. She died of infection.

FIGURE 5.49 Metastatic cancer to the liver. The white nodules are the cancer.

FIGURE 5.48 This woman had received treatment for cancer of the lung. There was a hole in her chest wall (arrow) through which the lung could be seen. She died of infection.

FIGURE 5.45 This lady came into the emergency room and died within a few hours. No one knew she had a huge tumor in her abdomen. See next photo.

FIGURE 5.46 The tumor was of ovarian origin and it weighed 26 lbs.

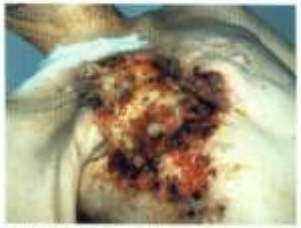


FIGURE 5.47 This is cancer of the breast after treatment. The woman died at home. The cancer had spread (metastasized) throughout her body. Breast cancer is rarely a cause of sudden and unexpected death.

FIGURE 5.48 This woman had received treatment for cancer of the lung. There was a hole in her chest wall (arrow) through which the lung could be seen. She died of infection.

FIGURE 5.49 Metastatic cancer to the liver. The white nodules are the cancer.

Marked emaciation. This woman died of

FIGURE 5.51 This man collapsed in the bathroom. There was blood on the toilet and the floor. See next photo.

FIGURE 5.52 All of the blood on the floor came from his mouth. He was an alcoholic who had a damaged liver (cirrhosis) which caused blood vessels in the esophagus to become thickened. These thickened vessels (varices) are prone to rupture, as in this case. He bled to death.

FIGURE 5.53 Chronic alcoholics can also bleed from varices in the rectum.

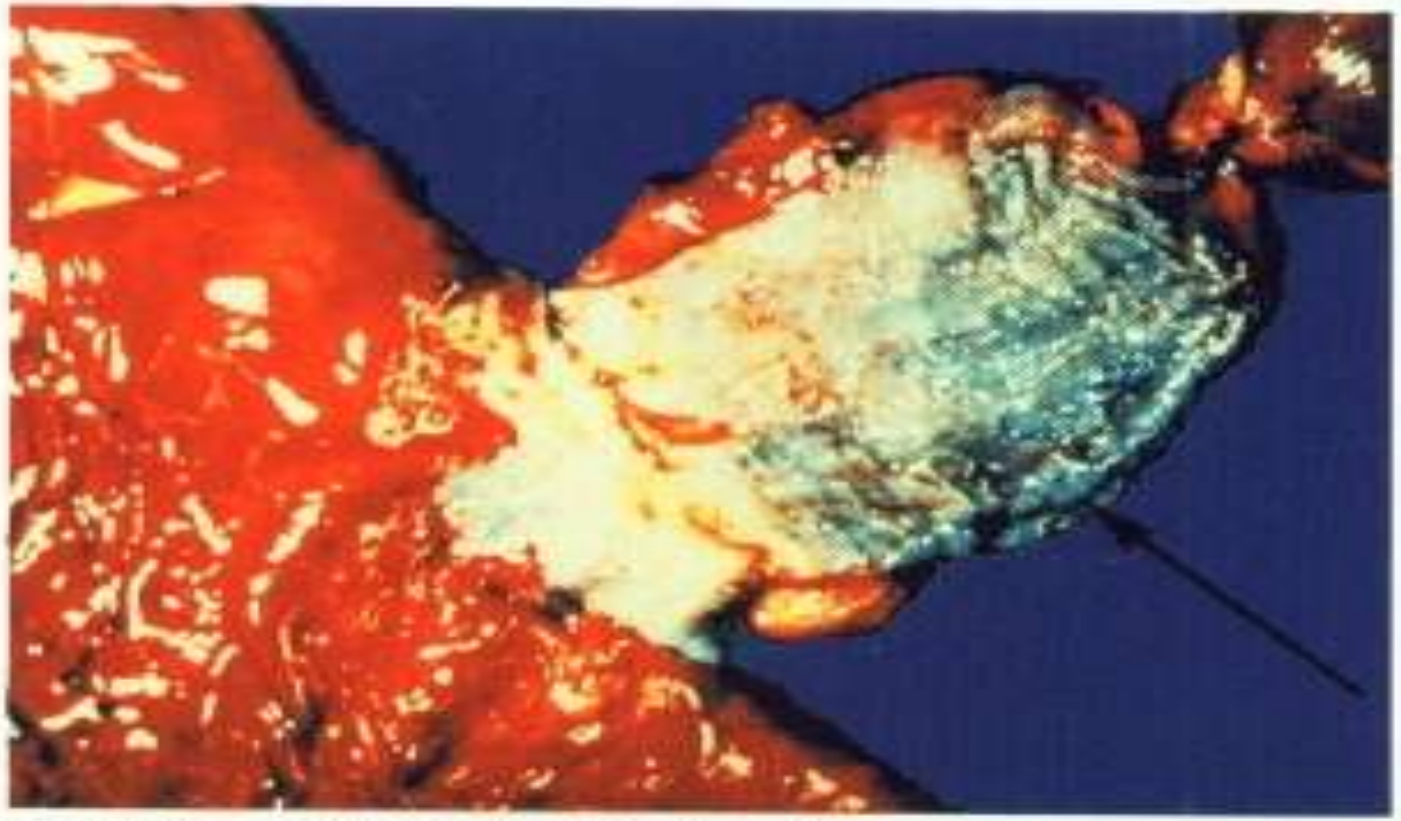


FIGURE 5.54 This is the distal esophagus in a chronic alcoholic. The arrow points to the thickened varices. The stomach (to the left) is red because of irritation from the alcohol.

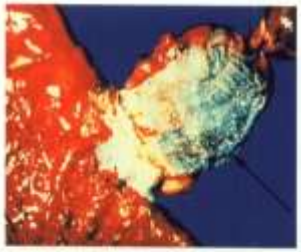


FIGURE 5.54 This is the distal esophagus in a chronic alcoholic. The arrow points to the thickened varices. The stomach (to the left) is red because of irritation from the alcohol.

FIGURE 5.55 This liver has cirrhosis (scarring from both alcohol and hepatitis.

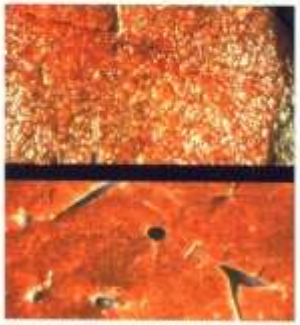


FIGURE 5.56 This illustrates the difference between a cirrhotic liver from alcohol abuse (upper) and a normal liver (lower).

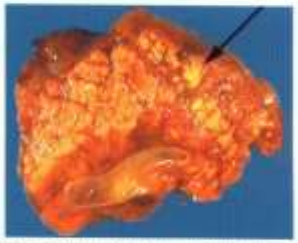


FIGURE 5.57 Alcoholics can also have inflammation of the pancreas (pancreatitis). The arrow points to the yellow area of inflammation.

FIGURE 5.58 This African American man developed a severe reaction to antibiotics. This type of injury should not be confused with thermal injury. See next photo.

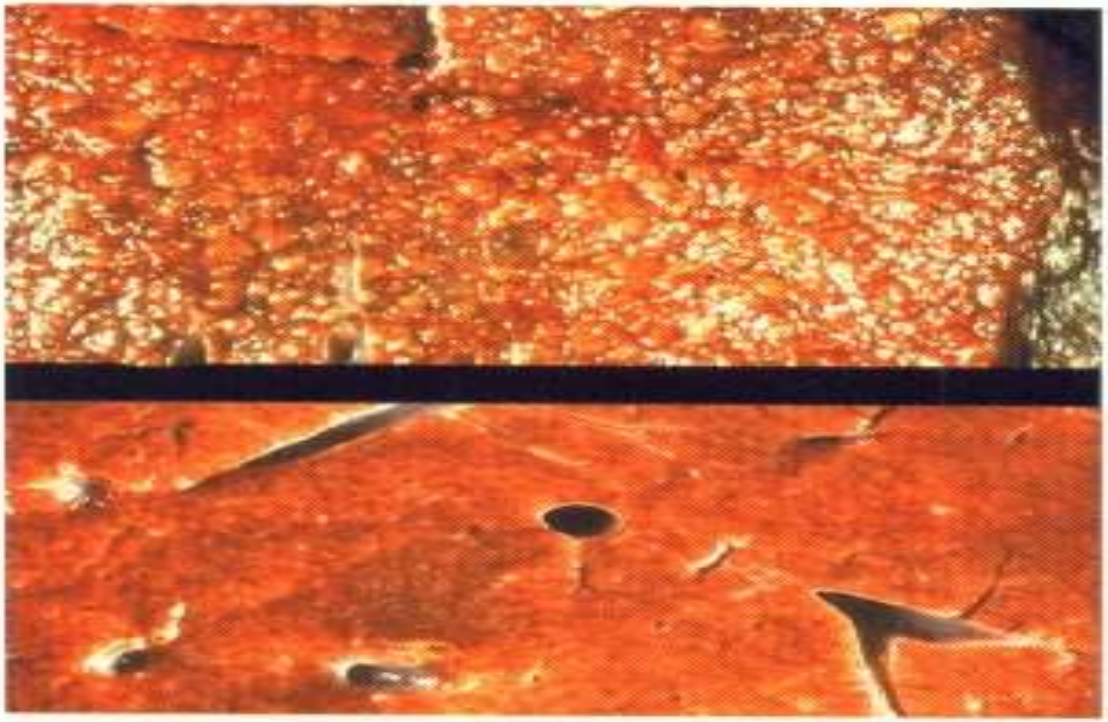


FIGURE 5.56 This illustrates the difference between a cirrhotic liver from alcohol abuse (upper) and a normal liver (lower).

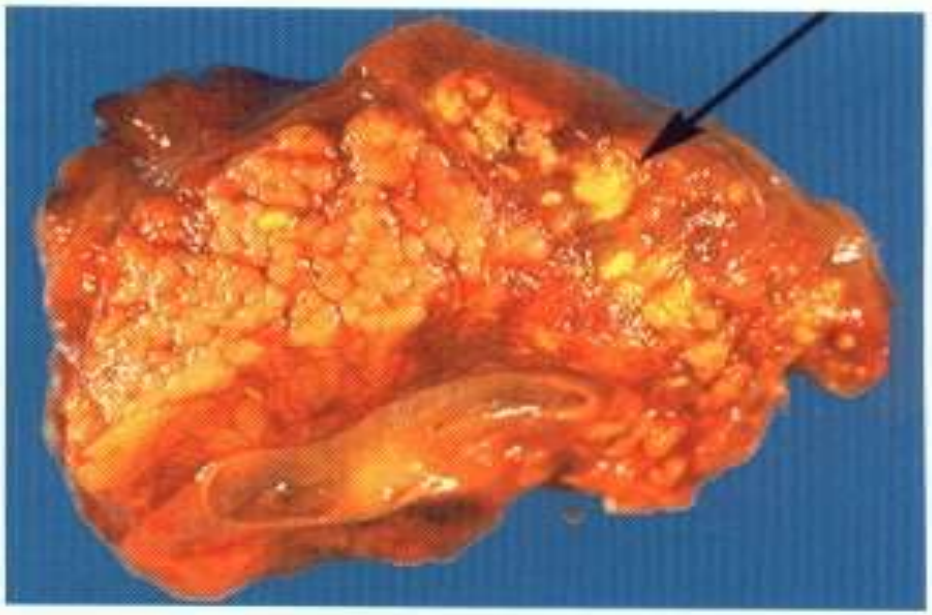


FIGURE 5.57 Alcoholics can also have inflammation to the pancreas (pancreatitis). The arrow points to the yellow area of inflammation.

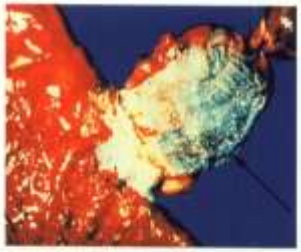


FIGURE 5.54 This is the distal esophagus in a chronic alcoholic. The arrow points to the thickened varices. The stomach (to the left) is red because of irritation from the alcohol.

FIGURE 5.55 This liver has cirrhosis (scarring from both alcohol and hepatitis.

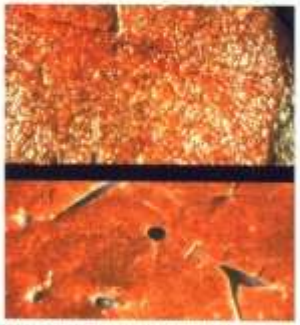


FIGURE 5.56 This illustrates the difference between a cirrhotic liver from alcohol abuse (upper) and a normal liver (lower).

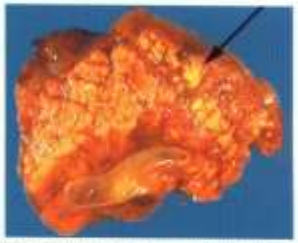


FIGURE 5.57 Alcoholics can also have inflammation of the pancreas (pancreatitis). The arrow points to the yellow area of inflammation.

FIGURE 5.58 This African American man developed a severe reaction to antibiotics. This type of injury should not be confused with thermal injury. See next photo.

FIGURE 5.59 The outer layer of his skin slipped off most of his body. Some of the skin (arrow) on his chest became mummified while he was alive. See next photo.

FIGURE 5.59 The outer layer of his skin slipped off most of his body. Some of the skin (arrow) on his chest became mummified while he was alive. See next photo.

FIGURE 5.60 A closer view of the extent of the damage and the mummification to the chest. See next photo.

FIGURE 5.61 The lower extremities were also affected. See next photo.

FIGURE 5.62 Another case of skin slippage from a reaction to antibiotics. A view of his back reveals the extent of the injury to this African-American man. This change should not be confused with thermal injury.

chest. See next photo.

FIGURE 5.61 The lower extremities were also affected. See next photo.

FIGURE 5.62 Another case of skin slippage from a reaction to antibiotics. A view of his back reveals the extent of the injury to this African-American man. This change should not be confused with thermal injury.