abnormalities of the pleura, and no other underlying disorders were identified. To our knowledge, this case is the first spontaneous hemothorax with no associated anomalies found at thoracotomy.

Hemothorax has been reported to be associated with trauma, intrathoracic or intra-abdominal aneurysm with dissection, pulmonary infarction from pulmonary emboli or necrotizing lung infection, coagulopathy, neoplastic disease, and in association with spontaneous pneumothorax. A series of spontaneous hemopneumothoraces was reported in 1938; in most cases, these were attributable to ruptures of vascular pleural adhesions. Slind and Rodarte in 1974 reported what they believed was the first case of spontaneous hemothorax; however, an intramuscular hematoma underlying a pleural tear was found.

The source of hemorrhage often can be identified initially by radionuclide labeled red blood cells or angiography. Placement of chest tube for drainage is usually necessary for massive hemorrhage. However, exploratory thoracotomy may be required in unstable patients and to prevent further complications such as empyema and fibrothorax.

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Cardiac Abscess Following Percutaneous Transluminal Coronary Angioplasty*

Jean-François Timait, M.D.;† Michel A. Wolff, M.D.;† Jean-Pierre Bédos, M.D.;‡ Jean-Christophe Lucet, M.D.;‡ and Dominique Décré‡

We report the first case of myocardial abscess directly related to percutaneous transluminal angioplasty (PTCA). Infectious complications of PTCA are very rare and limited to a few cases of groin infection and septic endarteritis most often after repeated procedures. In our patient, a problematic and repeated procedure probably led to a direct colonization and subsequent infection of an intimal dissection of the right coronary artery. Standard aseptic techniques can be inadequate in the case of early repuncture or if there is an indwelling line. Prophylactic antibiotic treatment should be considered in this case, although its usefulness has not been yet formally demonstrated.

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PTCA = percutaneous transluminal angioplasty; RCA = right coronary artery

Percutaneous transluminal coronary angioplasty is widely used in the treatment of coronary disease. Complications occur in about 10 percent of cases, but infection is very rare.

CASE REPORT

A 66-year-old woman was referred to our intensive care unit with septicemia. Her past medical history included diabetes mellitus, treated with glibenclamide, and coronary disease. She underwent a coronary bypass on the left anterior descending coronary artery in 1983. Since then, she had been asymptomatic while receiving atenolol and acenocoumarol.

In October 1990, she was admitted for acute myocardial infarction complicated by cerebral ischemia. A coronary angiogram was performed through a right femoral access and revealed a 90 percent stenosis of the proximal right coronary artery (RCA). On October 24, she underwent PTCA through the same femoral access. Immediate intimal dissection of the RCA required low pressure balloon inflation, and the femoral artery sheath was left in place. The next day, residual stenosis required another PTCA with prolonged low pressure balloon inflation with a good result (30 percent residual RCA stenosis). The femoral access was removed after 48 h. Two days later, she had isolated fever (38°C); the white blood cell count was 17.1 × 10^9/L polymorphonuclear cells. Three blood cultures were negative. She spontaneously became afebrile and was discharged to her home on November 1.

Over the following days, fever recurred with chills and diarrhea. The patient was readmitted on November 10 and referred to our unit.

On initial examination, the patient's temperature was 38°C. Inflammatory subcutaneous nodules were present on the legs and arms. Cardiac examination was normal, and there were no signs of inflammation and no thrill at the femoral puncture site. Multiple blood cultures taken on admission grew Pseudomonas aeruginosa serotype O11. The same pathogen was recovered from a biopsy specimen from the subcutaneous nodule.

*From the 3 Clinique de Réanimation des Maladies Infectieuses, and †Service de Bactériologie, Hôpital Bichat-Claude Bernard, Paris, France.
A combination regimen of ceftazidime (6 g/day), tobramycin (200 mg/day), and ciprofloxacin (600 mg/day) was initiated. Serum bactericidal titers were 1:128 and 1:32 at peak and trough, respectively. The patient rapidly became afebrile, and medical treatment was pursued. The aminoglycosides were stopped after two weeks.

A thoracic ultrafast high-resolution CT scan revealed a lesion between the aortic sinus and the wall of the first segment of the right coronary artery through the right atrioventricular groove. (Fig 1) The aorta and the iliofemoral arteries were normal. Transthoracic and transesophageal echocardiography confirmed the presence of a liquid mass between the RCA and the atrioventricular groove. The aortic valves were normal. A second echocardiogram two weeks later showed an enlarged pulsatatory mass communicating with the aorta (Fig 2).

Although the patient remained afebrile, surgical treatment was decided upon. The abscess created a fistula into the aorta and eroded the anterior wall of the right ventricle. After emptying pus, two reconstructive patches were applied. Cultures of the specimen were negative. The postoperative course was uneventful with the patient receiving ciprofloxacin (1.5 g/day). The patient was discharged home in good health after a two-month course of antibiotics.

**DISCUSSION**

Complications of PTCA occur in about 10 percent of cases, and they are often preceded by an intimal dissection of the coronary vessels.

In a series of 4,988 PTCA,s 55 iatrogenic vascular complications developed in 52 (1 percent) patients. Advanced age and postprocedural anticoagulation were the two major risk factors. Pseudoaneurysm, the most frequent vascular complication, occurred in 35 patients (64 percent), but no infections were noted. In two reports from Emory Hospital, including more than 8,000 procedures, there were no infectious complications directly attributable to PTCA. A few cases of groin infections and septic endarteritis have been reported, most often after repeated procedures with early puncture of the femoral artery. It is likely that femoral artery puncture frequently gives rise to small hematomas in the soft tissues with local host defense impairment, and possibly, an increased susceptibility to infection.

To our knowledge, only one case of bacterial endocarditis with aortic ring abscess after an aortic valvuloplasty has been reported.

There have been no previous reports of myocardial abscess after PTCA. In our patient, the dilatation of the RCA was problematic, and several different balloon catheters were used. Strict asepsis may not have been observed during the entire procedure, leading to the colonization between the PTCA catheter and the femoral artery wall, and the subsequent infection of the intimal RCA dissection. The absence of clinical and roentgenographic femoral lesions, together with the three negative blood cultures, would appear to rule out bacteremia due to femoral endarteritis and secondary colonization of the RCA intimal dissection.

Staphylococci, Candida sp, and enterococci are the main pathogens in arterial catheter sepsis. Gram-negative bacilli are generally found in patients receiving long-term broad-spectrum antibiotics and in severely ill or immunocompromised patients.

Disseminated subcutaneous abscesses have previously been reported in patients with P aeruginosa septicemia. Other Gram-negative rods and fungi are occasionally incriminated.

There is a possibility of major myocardial infection after PTCA. Standard aseptic techniques can be adequate in the case of early repuncture or if there is an indwelling line.

We feel that the use of a different access site would be preferable. When long and difficult intraarterial procedures are performed, prophylactic antibiotic treatment should be considered, although its usefulness has not been yet formally demonstrated.

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Cardiac Tamponade due to Nocardia asteroides

Timothy L. Clenney, Michael D. Hammond, M.D., F.C.C.P.; Peter P. McKeown, M.D., F.C.C.P.; Doug A. Holt, M.D., and Paul M. Wallach, M.D.

Pericarditis with hemodynamic compromise is a rare manifestation of infection with Nocardia asteroides. To our knowledge, only six cases have been reported previously. In contrast to other cases of pericardial disease due to Nocardia, culture of the pericardial fluid in our case was negative while culture of pericardial tissue led to the diagnosis. Surgical intervention and appropriate antibiotic therapy are essential in the treatment of Nocardia pericarditis.

Nocardia asteroides is an uncommon cause of human illness. The spectrum of disease ranges from benign, self-limited suppurrative skin infections to aggressive pulmonary infections that may disseminate hematogenously. Pericarditis with hemodynamic embarrassment is an extremely rare manifestation of infection with N asteroides. Six cases of culture positive Nocardia pericarditis resulting in hemodynamic compromise have been reported previously.

We describe the case of a man who became hemodynamically unstable secondary to cardiac tamponade caused by N asteroides. In contrast to the other reported descriptions of pericarditis due to Nocardia, culture of the pericardial fluid from our patient was negative while culture of pericardial tissue led to the diagnosis.

CASE REPORT

A 45-year-old farm worker was admitted to a community hospital with a one-month history of worsening dyspnea, fever, pleuritic chest pain, and a 7-kg weight loss over two months. Cough and sputum expectoration were denied. His medical history was significant for a seizure disorder treated with phenytoin, alcohol abuse, and a recent diagnosis of latent syphilis treated with penicillin. Tobacco and illicit drug use were denied. Initial examination revealed an oral temperature of 39.2°C, pulse rate of 112/min, respiratory rate of 24/min, and blood pressure of 110/80 mm Hg.

The patient appeared cachectic and acutely ill. The neck veins were not distended. Examination of the heart and lungs revealed decreased breath sounds on the right. The liver span was 16 cm at the midclavicular line, extending 4 cm below the right costal margin. By report, the chest roentgenogram at the community hospital revealed a right upper lobe infiltrate with cavitation and widening of the mediastinum. The leukocyte count was 13,900 µl with a normal differential cell count.

Antibiotic therapy was initiated with cefotaxime. A computed tomography scan of the chest confirmed the presence of a cavitary lesion in the anterior segment of the right upper lobe. The patient was transferred to our hospital with a diagnosis of cardiac tamponade. On arrival, the patient was in respiratory distress. The temperature was 38.8°C and the blood pressure was 90/50 mm Hg with 18...