cause the identified turned blood there Cultures monocytes. development acillin, numerous trochlear increased ing pulse a patient. lymph fever.

Subsequent The Since 4 viruses. By 35% were and 28. By 41% negative cells, both and 3,900 WBC/mm with 17 percent polymorphonuclear cells, 69 percent lymphocytes, and 14 percent monocytes. The specific gravity was 1.033. The LDH was 1,965, glucose, 35 (serum glucose = 82), protein, 5.5 g/dl; and pH, 7.39. Cultures and stains were negative for bacteria, mycobacteria, fungi, and viruses. By the end of July, the pleural effusion had resolved without any specific therapy. The patient's hemoglobin level returned to 13.5 by November 25, 1983.

Subsequent to the report by Wears and associates' sections from the lymph node were submitted to their laboratory. The bacillus was identified on Warthin-Starry stain (Fig 2).

**Discussion**

Since the initial description of cat-scratch disease, it has been described with numerous associated problems. Because no etiologic agent had been identified until recently, the diagnosis remained one of exclusion. Though a positive skin test often provided helpful information in the proper clinical setting, the skin test could not be standardized. As many as 10 percent of patients with a classic presentation would have negative tests and 4 percent of normal patients had positive test results.' The diagnosis in atypical presentations became even more difficult. In 1983, Wear and associates reported the identification of a coccobacillus in lymph nodes from patients with cat-scratch disease. This apparent specific finding has provided a diagnostic aid in this syndrome that may even help to redefine the syndrome, especially in atypical cases.

In our patient, several systemic manifestations were evident. Anicteric hepatitis had been reported before, but this is the first case where the coccobacillus has been identified. Frank pleural effusions have not been reported, though Sheldon and Smellie noted a "pleural reaction" associated with pneumonic infiltrates in a patient with atypical cat-scratch disease, but there is no report of a thoracentesis being performed.

The patient's mental status changes were resolved by the time he was seen. Encephalitis is a recognized complication of cat-scratch disease.

In summary, we have presented a case of systemic cat-scratch disease with the documented coccobacillus in the lymph nodes. It is possible that both liver and pleural involvement are more common, but due to the usual benign nature of this syndrome, evaluation for these complications is not undertaken.

**Acknowledgment:** We would like to thank Dr. D. J. Wear and colleagues for identifying the bacillus in the submitted tissue, and Dr. Paul Richards for referring this case to us.

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**201 Tl and 67 Ga Uptake in Malignant Fibrous Histiocytoma of the Heart**

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A patient with malignant fibrous histiocytoma of the heart is described who was initially presented with a left atrial tumor. Subsequent 201 Tl and 67 Ga scintigraphy showed massive uptake of the tracers by the tumor and the pattern of uptake was thought to reflect underlying necrosis and hemorrhage within the tumor.

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The $^{201}$Tl and $^{67}$Ga agents have been widely accepted as useful tumor-seeking radioactive isotopes. However, there have been limited reports which describe radionuclide imaging of cardiac sarcomas by these tracers due to the rarity of such tumors.

Among primary cardiac sarcomas, malignant fibrous histiocytoma of the heart is exceedingly rare in contrast with its common occurrence in the soft tissue. We report a case of malignant fibrous histiocytoma of the heart that initially simulated a left atrial myxoma, then subsequently showed abnormal accumulation of both $^{201}$Tl and $^{67}$Ga.

**CASE REPORT**

A 45-year-old woman was referred to our hospital on Oct 21, 1982, for evaluation of rapidly progressive heart failure following intussusception of the jejunum one month before. She was well until Aug 11, 1982, when she developed epigastralgia followed by nausea, vomiting, and hematemesis. Exploratory laparotomy performed at another hospital revealed intussusception of the jejunum accompanied by a 3 x 7 x 8 cm pedunculated tumor. Subsequent histologic diagnosis of the resected tumor was malignant fibrous histiocytoma. The postoperative course was smooth, but she rapidly developed congestive heart failure three weeks after the operation and was transferred to our institution.

On admission, she was alert and had orthopnea. The blood pressure was 96/60 mm Hg, and pulse rate, 147 beats per minute. There was no murmur. A diastolic extrasound was heard, but the origin was obscured by rapid heart rate. Moist rales were heard at both lung bases.

Abnormal laboratory findings included the following: hemoglobin 10.6 g/dl, white blood cell count, 11200/ml, SGOT, 961U/L; LDH, 12341U/L; and C-reactive protein, 8+. The ECG showed sinus tachycardia, low voltage, and left atrial overload. Chest roentgenogram revealed moderate cardiomegaly with evidence of pulmonary edema and bilateral pleural effusion. Swan-Ganz catheter was inserted and pulmonary artery pressure was 64/30 mm Hg and cardiac index 3.36L/min/m$^2$. Two-dimensional echocardiogram (Fig 1) demonstrated a mass in the left atrium protruding into the left ventricle during diastole and posterior echo free space.

At cardiac surgery, the left atrium was opened and a sessile multinodular tumor was found to be attached to the posterior and lateral wall of the atrium, obstructing the orifices of the pulmonary veins partially. The tumor extended into the pericardial cavity; only partial resection was possible. Histologic diagnosis of the resected tumor was malignant fibrous histiocytoma.

Postoperatively, the patient improved clinically with restoration of hemodynamic abnormalities. The tumor again grew rapidly despite

**FIGURE 1.** Echocardiogram on admission. Panel A (left) is an M-mode echocardiogram demonstrating the tumor echo behind the anterior leaflet of the mitral valve during diastole. Panel B (right) is a long-axis two-dimensional echocardiogram. The tumor echo almost completely fills the left atrium and the pericardial effusion is visible behind the left ventricle. LV is left ventricle; AO, aorta; LA, left atrium; and PE, pericardial effusion.

**FIGURE 2.** Computed tomogram of the chest demonstrating a large tumor adjacent to the heart in the left hemithorax.

**FIGURE 3.** Anterior $^{67}$Ga image of the chest showing intense but somewhat uneven uptake of the tracer by the tumor.
the treatment with combined regimen of cyclophosphamide and vin-
cristine. Computed tomogram of the chest (Fig 2) revealed a large
tumor adjacent to the heart occupying the left hemithorax. A $^{67}$Ga
scan (Fig 3) obtained 72 hours after injection of the tracer revealed
intense but somewhat uneven accumulation of the tracer corre-
sponding to the tumor. Scintigra-67The focal defect in-55The spon-
taneous accumulation of the tracer at the center is apparent especially in
the 45° left anterior oblique view.

At necropsy, the tumor in the left atrium infiltrated through the
lateral wall of the atrium and expanded exclusively toward the left
pericardial cavity. On cut section, there were both areas of necrosis and
areas of hemorrhage in the center of the tumor. Histologic exami-
nation demonstrated pleomorphic appearance with bizarre giant
cells, fasciculated and storiform patterns of spindle tumor cells, and
numerous mitotic figures which are consistent with features of
malignant fibrous histiocytoma. The histologic features of the tumor
resected from the jejunum were essentially identical to that of the
heart. Metastasis to the right adrenal gland was present.

**DISCUSSION**

Malignant fibrous histiocytoma (MFH) has become a well-
recognized entity. Weiss et al. have recently suggested that
MFH is the most common soft tissue sarcoma of late adult
life. The majority of tumors occur on the extremities or in the
abdominal cavity or retroperitoneum. Few cases of primary
MFH of the heart have been reported since the first descrip-
tion by Shah et al. 8

Although there has been little experience with radionu-
clide imaging of cardiac tumors by $^{201}$TI or $^{67}$Ga, previous reports on
$^{201}$TI scintigrams for cardiac tumors revealed two distinct patterns, ie, focal defect indistinguishable from
myocardial infarction, 3 and a region of increased tracer
uptake. 4 Mechanisms responsible for this difference in up-
take of the tracer are unclear but similar difference in
accumulation of the tracer was noted by Hisada et al. 5
between primary and metastatic liver cancer. They specu-
lated that disparity in $^{201}$TI concentration of feeding arter-
y to the tumor may contribute to the difference in uptake. It is of
interest that in our case there was marked decrease in $^{201}$TI
uptake at the center of the tumor. One possible explanation
for this finding is that $^{201}$TI failed to accumulate in the area of
necrosis and hemorrhage within the tumor since $^{201}$TI is
considered to accumulate principally in viable cells. The
location of defect on $^{201}$TI image in this case is consistent with
the area of necrosis and hemorrhage demonstrated at au-
topsy. The $^{67}$Ga scintigram also showed similar but less
apparent reduction in uptake at the center, possibly due to
mechanisms analogous to heterogenous $^{201}$TI uptake by the
tumor. Since $^{201}$TI image was performed 24 days after $^{67}$Ga
scan, it is possible that a different uptake pattern noted on the
two scans may reflect the extent of ongoing central necrosis
within the tumor.

Our patient had a tumor of the jejunum prior to develop-
ment of symptoms of heart failure. However, it seems un-
likely that the tumor in the left atrium represents a metastatic
lesion from the jejunum for the following reasons. First, in
contrast to other primary sarcomas of the heart which
preferentially occur in the right side of the heart, all primary
MFH of the heart reported to date presented with a left atrial
tumor as seen in our case. Second, it is unreasonable to
assume that MFH originating in the jejunum can metastasize
to the left atrium or adrenal gland without metastasis to the
lung which is most frequently involved in MFH irrespective of
the metastatic route. Finally, primary MFH of the
gastrointestinal tract is exceedingly rare, 6 and only two cases
have been described hitherto.

It was suggested that some tumors previously diagnosed as
pleomorphic variants of liposarcoma, fibrosarcoma, or rhab-
domyosarcoma actually represented MFH. Hence, the diag-
osis of MFH of the heart is expected to become more
common with increasing recognition of this entity. Apart
from the question of the precise incidence of this sarcoma,
to our knowledge this is the first reported case of MFH of the
heart which was performed with combined radionuclear
studies. Moreover, both tumor-imaging agents, especially
$^{201}$TI, not only accumulated in the tumor, but also showed
unique uptake pattern which was considered to reflect the
underlying pathologic process within the tumor, ie, central
necrosis and hemorrhage observed at autopsy.

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**FIGURE 4. Anterior (left) and 45° left anterior oblique (right) views of $^{201}$TI image showing abnormal accumulation of the tracer corre-
sponding to the tumor. An area of diminished activity at the center is apparent especially in
the 45° left anterior oblique view.**

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Aortic Pseudo-Aneurysm with Aspergillus Aortitis*

An Unusual Complication of Coronary Bypass Surgery

Richard Gray, M.D., F.C.C.P.; Leo Kaplan, M.D.; Jack Matloff, M.D., F.C.C.P.; Stephen Uman, M.D.; and Joseph Shachtman, M.D.

This is the first report of fatal postoperative Aspergillus infection in an aortic pseudoaneurysm associated with a jet lesion produced by a deformed, but hemodynamically normal aortic valve. Widespread arterial embolization was the principal feature and resulted in death on the 12th hospital day due to massive thromboembolism to the brain three months after successful coronary bypass surgery. Possible sources of such infections and the potential effect of the jet lesion are discussed.

Fatality from Aspergillus infection of an ascending aortic pseudoaneurysm is reported. Widespread arterial embolization was the principal feature and resulted in death on the 12th hospital day due to massive thromboembolism to the brain three months after successful coronary bypass surgery. A definite bacteriologic diagnosis was made only on autopsy material. Available literature concerning this postoperative complication reveals no references to isolated coronary bypass as the antecedent surgical procedure, although infections elsewhere in the vascular system have been reported. This is the first report of fatal postoperative Aspergillus infection in an aortic pseudoaneurysm associated with a jet lesion produced by a deformed, but hemodynamically normal aortic valve. Possible sources of such infections and the potential effect of the jet lesion are discussed.

Case Report

A 66-year-old man was admitted with a 12-hour history of persistent right sided abdominal pain and fever two hours after a large meal. Three months earlier, he had undergone aorto-coronary bypass graft surgery after angiography revealed a 90 percent left main coronary lesion with additional severe obstructive disease of all three coronary arteries. The patient was known to have had a midystolic murmur for many years. During catheterization, mild aortic valvular calcification was noted, but no hemodynamic evidence of aortic valve stenosis was detected. Beginning one hour prior to surgery, he received methicillin (500 mg IV q 6 hours) for five days, and streptomycin (500 mg IM q 12 hours) for three days. The surgical procedure and postoperative recovery were uneventful and the patient had a normal temperature and white blood cell count. Following hospital discharge, he remained afibrile but at six weeks, persistent anemia was noted (hemoglobin 11.0 g percent) accompanied by latitude, exercise intolerance and depression. Six days prior to readmission, he saw his dentist because of right maxillary pain. No pathology was noted, but a course of oral erythromycin (500 mg q 6 hours) was begun.

At readmission the temperature was 37.7°C (100°F) and vital signs were normal. A soft S,

FIGURE 1. Ascending aortic pseudoaneurysm lined and filled with Aspergillus-laden thrombi.

FIGURE 2. Aortic wall, adjacent to ostium of the pseudoaneurysm, permeated by Aspergillus (original magnification, x 700).