sions that had a high level of amylase. We disagree with this suggestion and offer the following comments.

Although pancreaticopleural fistulae (internal pancreatic fistulae) resulting from disruption of the pancreatic duct or pseudocysts are known complications of pancreatitis, their incidence is unknown. The presence of such fistulae is suggested by amylase-rich massive hemorrhagic pleural effusions sometimes associated with pancreatic ascites and exhibiting a strong tendency to recur. The essential objectives of initial management are to drain the pleural fluid and to reduce pancreatic secretions. The former is accomplished by multiple thoracocenteses or insertion of a chest tube, and the latter is done by cessation of oral feedings, parenteral nutrition, and possibly therapy with pharmacologic agents. With this management, closure of the fistula occurs in a significant number of patients. If there is no response within the first two weeks, surgery is indicated; based on the findings of pancreatographic studies, resection of the cyst or a part of the pancreas is recommended.

Since a pancreaticopleural fistula may not always be demonstrated by injection of iodized oil into the pleural cavity, a false-negative result may be obtained. At times, special maneuvers may be necessary to demonstrate the fistula. Abnormal results on the study (demonstration of a pancreaticopleural fistula) very early in the course of the illness has no significance from the standpoint of management, since the presence or absence of a fistula does not alter the initial therapy.

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REFERENCES


Malignant Atrial Myxoma Presenting as Intracranial Mass

To the Editor:

The report in Chest of an atrial myxoma metastasizing to the brain and bone and the reference to another where a chondrosarcoma simulated an atrial myxoma underscore the problem faced by the pathologist attempting to make a histologic interpretation of these cardiac tumors. I was involved in the management of a similar case which further exemplifies this dilemma.

CASE REPORT

A 34-year-old woman had chronic persistent headaches which had been worse for the last three months. Three days prior to admission, she had an epileptiform event characterized by shaking of the arms and deviation of the head to the right. On physical examination the patient had slow speech and thought patterns. Mild blurring of the optic disks was noted. Cardiac examination showed a fourth heart sound and a soft early systolic murmur at the left sternal edge and apex. No diastolic murmur was recorded.

A chest radiograph showed the heart at the upper limits of normal size, with normal pulmonary vasculature. Pulmonary and mediastinal tomograms were normal. A barium enema showed only scattered diverticular disease. A liver-spleen scan and bone scan revealed no abnormality. Mammographic studies showed only mammary dysplasia, with no evidence of a tumor.

A brain scan using radioactive 99m technetium gluceptate sodium showed multiple areas of abnormal radionuclide concentration, in at least three areas on the right side, with a fourth on the left. These were considered to be tumor, rather than infarction, because of the multiplicity of the lesions and also because they were not demonstrated on a scan with radioactive 99m technetium pyrophosphate. An electroencephalogram was considered consistent with metastases to the brain. A computerized tomographic scan of the brain showed multiple lesions of reduced density which enhanced with intravenously injected contrast material and were read to be consistent with metastatic neoplasm or with multiple abscesses of the brain. Cerebral arteriographic studies showed three major intracerebral vascular occlusions, affecting the left lenticulostriatal, right middle cerebral, and right posterior cerebral arteries. No cervical arterial disease was demonstrated to explain these lesions, and a cardiac source of emboli was suggested.

An echocardiogram was interpreted as showing a membrane behind the mitral valve. Cardiac catheterization was accordingly performed, with the possible diagnosis of left atrial myxoma. A left atrial angiogram showed good filling of the left atrial appendage; the findings were of cor triatriatum with a lobulated filling defect thought to be a left atrial myxoma. Cardiac surgery confirmed these findings, and the tumor was widely excised. Pathologic examination favored a diagnosis of undifferentiated sarcoma.

The postoperative course was uneventful, and a further brain scan showed that the areas of increased uptake were larger than before. Accordingly, it was judged that they represented true metastatic deposits, rather than mere embolic infarcts, and a combination of irradiation and chemotherapy was administered.

DISCUSSION

In view of the unusual histologic picture and the site of the neoplasm, tissue was examined with the electron microscope. The findings at electron-microscopic examination were consistent with but not diagnostic of rhabdomyosarcoma. Furthermore, the slides of tissue were sent to two other university centers for evaluation. In the opinion of these experts, the tissue showed malignant undifferentiated neoplasm, highly suggestive of malignant lymphoma of the histiocytic type.

It appears that when atrial myxomas metastasize, the primary tumor is undifferentiated enough that they are difficult to characterize by histopathologic examination. The malignant potential of atrial myxomas has only been recently recognized but is perhaps more common than is widely believed.

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Bilateral Carotid Body Resection in Children with Severe Asthma

To the Editor:

I am very concerned regarding the recent publication in Chest of a single case report by Chang et al., which deals with bilateral resection of the carotid bodies in a child with bronchial asthma. On the basis of this single experience, Chang et al express the opinion that “bilateral resection of the carotid bodies is dangerous and unnecessary.”

Having read the case report with great care, I must conclude that it is not the surgery but rather the opinion of Chang et al that might be designated as dangerous and unnecessary. In support of this contention, I would like to detail specific instances of the inadequacies contained in the case report of Chang et al, as well as my personal experience with over 700 patients who have undergone bilateral resection of the carotid bodies for obstructive disease of the airways, including 14 patients within the identical category reported by Chang et al.

The case report of Chang et al concerned a child who developed asthma at the age of 2 years, underwent unilateral carotid body resection at the age of 6 years (presumably because of failure of conventional medical therapy), and had the second carotid body resected at the age of 11 years (presumably because treatment with unilateral carotid body resection failed). The surgical technique employed in this child was responsible for bilateral loss of the carotid sinus reflexes, undoubtedly due to bilateral destruction of the baroreceptor fibers at the carotid bifurcation in the neck. Within months of the completion of bilateral resection of the carotid bodies, actually when the child was 11 years and 10 months old, this patient was admitted to the National Asthma Center in Denver with “intractable asthma.”

The administration of conventional bronchodilator therapy plus cromolyn sodium was sufficient to keep this child’s “intractable asthma” asymptomatic during one year of observation at the National Asthma Center. It must, therefore, be assumed that no appropriate medical therapy had been administered immediately following completion of the bilateral resection (and prior to admission to the National Asthma Center), since the patient presumably would have been asymptomatic had such therapy been administered. In addition, if it is assumed that appropriate medical therapy had been administered, without relief, prior to completion of bilateral resection, then Chang et al have demonstrated that the same medical therapy following bilateral resection of the carotid bodies was able to result in substantial relief of symptoms, for which the surgery should receive due credit.

The lack of crucial laboratory and supportive clinical data, of which arterial blood gas levels and results of neurologic studies are the most serious omissions, makes the case report of Chang et al extremely difficult to assess; however, despite this lack of adequate documentation, Chang et al proceed to assume empirically that the symptoms following bilateral resection, including three episodes of cyanosis and disorientation in their patient, are totally related to loss of the ventilatory response to acute hypoxemia, although they admit evidence of the loss of only two-thirds of this response in their particular case. It is, therefore, obvious that critical examination of the basis for their assumptions and subsequent conclusions is not only essential but crucial. These investigators, in this single case, provide experimental evidence that bilateral resection of the carotid bodies (which was without histologic verification of bilateral removal of carotid body tissue) was responsible for (1) a reduction (but not loss) of the ventilatory response to acute hypoxemia, (2) no significant impairment of hyperoxic responsiveness to carbon dioxide, (3) prolonged breath-holding times, (4) impairment of ventilatory responses, and (5) loss of crucial warning symptoms of hypoxemia. On examination of these findings, there is nothing novel about items 1, 2, or 3, since all have been previously documented at length and fully discussed in previous reports.

Item 3 is a favorable indication of marked reduction or loss of dyspnea. Item 4 reflects poor surgical technique and is not an obligatory loss, if proper technique is employed.

It is acknowledged that exposure to sudden hypoxia, experimentally produced in the pulmonary research laboratory, may produce aberrant cerebral response in a few of many patients following bilateral resection of the carotid bodies, without apparent awareness by the subject being tested; however, it is vitally important to exercise caution in transposing such experimental findings to include all patients who have had this surgery, and also in considering the responses as fully applicable to clinical situations or daily living. Following bilateral resection of the carotid bodies, patients have reported to me an awareness of hypoxia in clinical situations and in daily living. The awareness takes the form of variable symptoms, such as headache, palpitations, tachycardia, a sense of “pressure” in the head, or general malaise. In addition, some patients who have remained in hypoxic environments (eg, high altitude), in spite of these warning symptoms, have reported apparent adaptation to this hypoxia, typically with loss of the symptoms and full activity within a few days.

It is acknowledged that the carotid bodies are the sole mediators of the ventilatory response to acute hypoxemia in man; hence, bilateral resection of the carotid bodies results in the loss of this response. It must also be acknowledged that most of the “dreaded” physiologic complications previously attributed to the loss of this response have been shown to be tenable no longer; for example, severe blunting of the ventilatory response to acute hypoxemia is now recognized as a variant of normal, and increasingly large numbers of conditions are now known to be associated with severe blunting. Prolonged sojourn of sea-level natives at high altitude has been shown to result in a reduction of the hypoxic drive by more than the two-thirds attributed to bilateral resection by Chang et al. Actually, Chang et al have no information that surgery was responsible for the reduction in ventilatory hypoxic drive in their patient, since this patient may have had a low hypoxic drive prior to and independent of the bilateral resection, regardless of the fact that blunting of the ventilatory response commonly takes considerable time to develop.

From the clinical standpoint, my personal experience with over 700 cases of bilateral resection of the carotid bodies, extending over a period of 16 years, has demonstrated evi-

REFERENCES