Adrenal Myelolipoma: Rationale for Nonoperative Management

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BONE MARROW-LIKE elements within the cortex and/or medulla of the adrenal gland were originally characterized by Gierke[1] in 1905, and in 1929 Oberling[2] referred to them as myelolipomatous formations. Though this lesion has been recognized for more than three quarters of a century, it has remained a relatively rare, benign adrenal tumor of unknown cause, with approximately 200 cases having been described in the world literature. The majority of these reports have been pathologic descriptions of lesions found incidentally at autopsy.[3,4] The tumor is well circumscribed by a pseudocapsule of compressed adrenal tissue, and consists of adult adipose tissue and a variable amount of hematopoietic tissue. The color of the tumor varies from yellow to deep red, depending on the proportion of fat to hemic cells.[5,6]

The etiology of adrenal myelolipoma remains uncertain and controversial. The tumor is unlikely to represent a blood dyscrasia or a unique form of compensatory extramedullary hematopoiesis, since the myeloid components have no accessible conduit into the systemic circulation.[5] The three theories most commonly entertained are (1) that the tumor arises from embryonic rests of primitive mesenchyme within the adrenal gland, (2) that it develops from a blood-borne embolus of bone marrow that lodges in the adrenal gland, and (3) that it is a result of adrenocortical cell metaplasia of the reticuloendothelial cells of blood capillaries.[7] The metaplasia theory is the most widely accepted, and many investigators attribute this abnormal metaplastic event to some form of infection, stress, or tissue damage.[8]

In 1957, Dyckman and Freedman[9] became the first to report a case of surgical resection of an adrenal myelolipoma in a symptomatic patient. Since then, 27 additional cases of surgical resection have been described.[10-17] Each of the 27 patients had operative exploration for suspected adrenal tumor, but in no case was the diagnosis of myelolipoma considered preoperatively.

In 1985, DeBlois and DeMay[10] reported the first case in which the lesion was successfully diagnosed without laparotomy by fine-needle aspiration guided by computerized tomography (CT). We report a case in which the diagnosis was made preoperatively, based on characteristic findings on CT scan.

CASE REPORT

A 52-year-old obese white woman was admitted to the hospital with a five-day history of nausea, vomiting, epigastric pain, and one episode of hematemesis, seven days after lumbar laminectomy. Her previous hospitalization and operation had been uneventful, and she had been discharged on a regimen of dexamethasone without pain or physical complaint. There was no past history of peptic ulcer disease or any other gastrointestinal problems. She had had hysterectomy in 1960, and five operations over the course of a 25-year history of back pain.

Physical examination on admission showed a moderately

FIGURE 1. Ultrasound study shows cystic lesion (arrow) within adrenal mass.

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