Incidental findings transcend medical practice. Two cases are discussed in which significant conditions were discovered during clinical examination for an unrelated disorder. The first case presents a disease reported for the first time in a male. Recent literature has alluded to missed diagnoses found only at autopsies. With cost constraint as a national theme, the appropriate use of technology presents a challenge to the physician. The cases discussed raise questions about the process of diagnosis. Both situations bring to light the limitations of clinical investigation early in the pathologic process.

(Key words: diagnosis, pathology, paraganglioma, renal cell carcinoma)

We must consider the unintended consequences and cost of asymptomatic disease. Examples of incidental diagnosis abound in the medical literature. Inadvertent discoveries of pathologic processes have been found in all specialties. When unforeseen tumors are identified earlier, treatment results are improved. Incidental tumors occur in lower stages than symptomatic tumors. When pituitary masses are found by chance, they are called “incidentalomas.” Unanticipated lesions have even been found during treatment of trauma. The following two cases represent the process in making an incidental diagnosis. One case describes a disease never before reported in a male.

Case presentations
Case 1
A 56-year-old man had a long-standing history of type 2 diabetes, panic attacks, hypertension, and hyperlipidemia. He recently had microalbuminuria diagnosed. The patient denied any history of radiation therapy to his head or neck in childhood. Physical examination by his family physician on February 19, 1998, revealed bilateral carotid bruits. On February 26, 1998, a carotid duplex study revealed bilateral, severe stenosis of the internal carotid arteries. The patient was asymptomatic. Vascular consultation resulted in acquiring carotid angiography, which showed an abnormality. Besides significant stenosis, a neovascularity and mass in the neck midline were incidentally discovered (Figure 1). The vascular surgeon reported that this lesion was nonpalpable. Sonographic assessment of the thyroid revealed a 3 × 1.4 cm elongated hypoechoic solid nodule occupying most of the isthmus and extending into the medial aspect of the left thyroid lobe. A nuclear medicine thyroid scan (8.6 μCi iodine 131) and uptake revealed a cold area involving the left thyroid lobe.

The patient underwent a successful endarterectomy on May 4. After a surgical consult, an extended left thyroid lobectomy and isthmusectomy were done October 13. The postoperative course was benign. The tumor that was found was a paraganglioma, which is extraordinarily rare. Paragangliomas can arise from virtually any site in the body containing embryonic neural crest tissue. A review of 4865 National Library of Medicine Medlar references on paraganglioma revealed 12 other documented
cases worldwide, all reported in women. The paraganglioma in the patient described here is the first reported in a man.\textsuperscript{14,15} Paragangliomas generally do not show a malignant nature and usually follow a benign course. They are rare neuroendocrine tumors, and malignant behavior, higher than pheochromocytomas, is based on metastases or local recurrence. Computed tomography (CT) and magnetic resonance imaging are particularly useful in the initial evaluation of patients with a suspected paraganglioma.\textsuperscript{16} The treatment is complete surgical excision. Radiation therapy and chemotherapy may be used for palliation of symptoms. The patient described here underwent thyroid suppression, and he will be followed up for micropapillary recurring carcinoma.

**Case 2**

A 62-year-old man had a history that includes long-standing hypertension, hyperlipidemia, obesity, a positive tuberculosis skin test, and a history of tonsillar radiation during childhood. Over the course of 19 years, he was treated for hypertension with intermittent success. Hyperlipidemia was also treated successfully. In September 1997, his blood pressure became uncontrollable. The patient remained asymptomatic. His blood urea nitrogen level, serum creatinine, and results of urinalysis remained normal. On June 18, 1998, a Doppler ultrasound study for hypertension revealed a complex abdominal mass of the right kidney which was suggestive of a pathologic process (Figure 2). A CT scan of the abdomen and pelvis revealed displacement of the liver by a very large mass arising within the right renal parenchyma. A claw sign was present, designating a mass of renal origin (Figure 3). The mass was 17 cm in craniocaudal dimension by 14 cm in mediolateral dimension. This neoplasm was low in attenuation with complex internal components, which is consistent with a renal cell cancer (RCC). No renal obstruction or higher adenopathy was appreciated. No renal hilar adenopathy was found.

On July 1, the patient underwent a right radical nephrectomy. Pathologic findings indicated a localized renal cell adenocarcinoma. The prognosis was excellent. The treatment of metastatic RCC is not very successful. The etiology of this disease is obscure. Incidentally detected RCCs occur in lower stages than the symptomatic tumors.\textsuperscript{17} Renal cell carcinoma is known to arise from the prox-

**Figure 1.** Case 1: Angiogram of carotid arch showing the lesion.

**Figure 2.** Case 2: Sagittal (top) and transverse (bottom) computed tomography scans of the right renal tumor.
imal convoluted tubule, and abnormalities on the short arm of chromosome 3 have been implicated in the sporadic and familial types of RCC as well as abnormalities of the common p53 gene which are also found in other cancers. Epidemiologic studies have incriminated tobacco. Familial RCC carcinoma has been reported. Patients with von Hippel-Lindau disease have a higher incidence of RCC than do patients with acquired cystic disease who undergo dialysis because of renal failure. Early-stage RCC is usually "silent," with symptoms developing with more ambiguous disease. The typical triad of hematuria, palpable flank mass, and flank pain is associated with an advanced tumor.\textsuperscript{18}

**Comment**

It is hoped that this report will give added perspective to the diagnostic process. How does an incidental diagnosis find credit? Are there other forces at work? What will future study reveal about the worthiness and cost-effectiveness of our developing technology? As these cases imply, the expectation that asymptomatic pathologic processes are detectable is unfounded. We must consider that some conditions, given current technology, are not diagnosable. It is hoped also that this report will stimulate further exploration of this incidental diagnostic process.

**References**


5. Chang FY, Shih CY, Lee SD, Tsay SH. The incidentally found leiomyoma that was in a resected stomach and its follow-up. Gastroenterology 1998;45(20):536-536.


**Figure 3.** Case 2: Computed tomography scan of the right kidney shows a cyst and tumor claw sign.