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Pathology Page

Solitary adrenal tuberculosis

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An 86-year-old man, with a past history of hypertension and congestive heart failure, presented with a sudden onset of severe persistent right upper quadrant pain that occurred while eating dinner. He arrived at the Emergency Room of Yu-Li Tzu Chi Hospital (Hualien, Taiwan) where cholelithiasis complicated by acute cholecystitis was diagnosed; at the same time, a left adrenal mass with multiple regional retroperitoneal lymphoadenopathies was found incidentally during an abdominal computed tomographic examination. Endocrine metabolite studies, including vanillomandelic acid, catecholamine (epinephrine, norepinephrine, and dopamine), free cortisol, adrenocorticotropic hormone, cortisol, aldosterone, plasma rennin activity, and dehydroepiandrosterone, were carried out; however, these showed no specific findings. Owing to the fact that malignancy could not be ruled out, he received left adrenectomy in addition to laparoscopic cholecystectomy.

Grossly, the left adrenal gland was found to be approximately 6.0 cm × 5.0 cm × 4.0 cm in size. On sectioning the left adrenal gland, a well-defined gray-whitish firm nodule was seen with multifoci caseous necrosis (Fig. 1). Microscopically, granulomatous inflammation with caseous necrosis and Langhans-type giant cells were noted (Fig. 2). Acid-fast staining showed the presence of a few tuberculosis bacilli, which led to a diagnosis of adrenal tuberculosis (Fig. 2, inset).

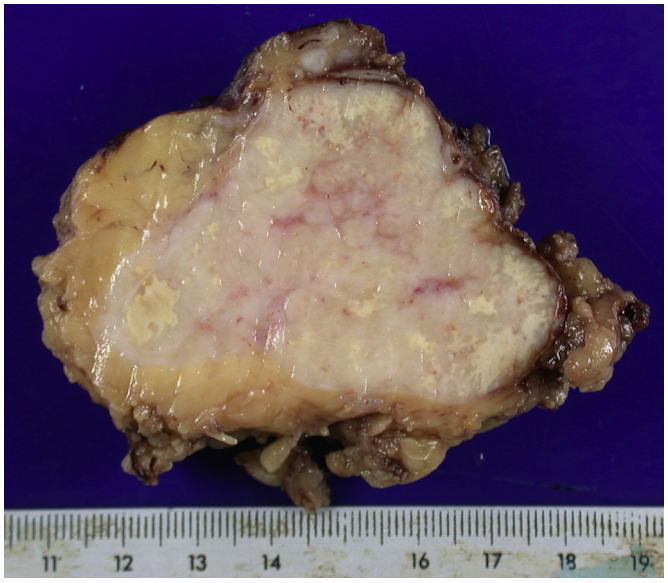

Fig. 1. Left adrenal gland of the patient showing a well-defined gray-whitish firm nodule with multifoci caseous necrosis.

Solitary adrenal tuberculosis is rare. The clinical features of a tuberculous adrenal mass are nonspecific and include fever, anorexia, weight loss, and weakness. However, adrenal function is usually preserved, although some patients with adrenal tuberculosis develop infection-related adrenal insufficiency when there is bilateral involvement. Solitary adrenal tuberculosis is often an incidental finding when an abdominal computed tomography scan has been carried out, and the presence of a mass frequently leads to an erroneous diagnosis of neoplastic disease, as was the situation with our case.

Conflicts of interest: none.

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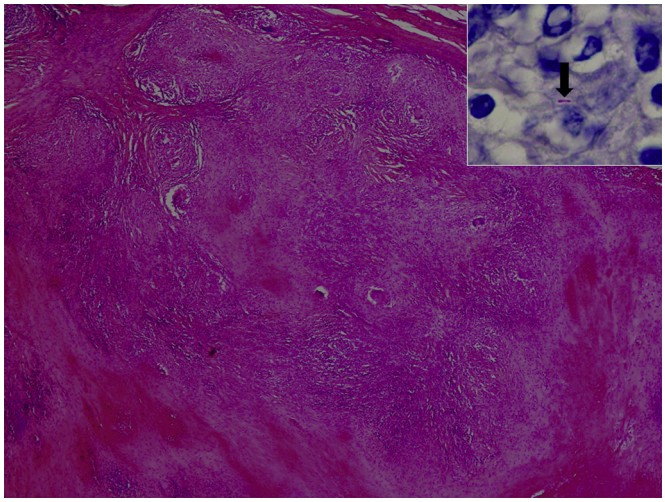

Fig. 2. Granulomatous inflammation with caseous necrosis and Langhans-type giant cells (hematoxylin and eosin stain, 100×). Inset, a high-power view of the caseous necrotic area showing an acid-fast stain-positive bacillus (arrow; acid-fast stain, 1000×).

Adrenal tuberculosis is almost always secondary tuberculosis derived from a *Mycobacterium tuberculosis* infection elsewhere, most often from the lungs. Solitary adrenal tuberculosis is probably due to reactivation of *M. tuberculosis* present in small lesions in the adrenal gland that were produced during the bacteremic phase of a previous *M. tuberculosis* primary infection.

Surgical intervention is advised in all cases where there is a solid, metabolically inactive adrenal mass >3.5 cm, with removal being the aim because of the possibility that the mass may potentially be malignant. This was the logic behind the surgical intervention we undertook in the present case. Masses that are <3.5 cm are usually benign and may safely be followed up with serial computed tomography scans.

Further reading

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