What Is Your Diagnosis?

A 3-year-old female budgerigar (Melopsittacus undulatus) was evaluated for paralysis of the left pelvic limb after the owner noticed that the bird was holding its left leg straight out behind it and was lying in its food dish at the bottom of the cage. On physical examination, a firm mass was palpable caudal to the keel on the left side of the coelomic cavity. Increased respiratory sounds were detected during auscultation of the lungs and abdominal air sacs. No fractures were palpated, and there was no voluntary flexion, grip, or withdrawal reflex in the affected limb. Radiographs of the bird's body and proximal aspects of both pelvic limbs were obtained during anesthesia (Figure 1).

Determine whether additional imaging studies are required, or make your diagnosis from Figure 1—then turn the page.

Figure 1—Right lateral (A) and ventrodorsal (B) radiographic views of the body and proximal aspects of both pelvic limbs of a 3-year-old female budgerigar evaluated for paralysis of the left pelvic limb.

History

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Radiographic Findings and Interpretation

On the lateral radiographic view, the grit-filled ventriculus is displaced ventrally and slightly caudally by an ill-defined soft tissue mass in the middle to caudal portion of the coelomic cavity. On both radiographic views, severe muscle atrophy (small arrows) of the left pelvic limb can also be seen.

The location of the sciatic nerve in birds is such that the nerve passes through the renal parenchyma. Therefore, enlargement of the kidney can cause compression of the nerve, leading to neurogenic paralysis. The most common clinical sign seen in birds with renal or gonadal tumors is unilateral pelvic limb paresis that progresses to paralysis in the early stages of tumor growth.

Gonadal diseases that cause organomegaly can also cause compression of the sciatic nerve and unilateral paralysis because of their location immediately cranial to the kidneys. Common causes of ovarian enlargement include ovarian adenocarcinoma and granulosa cell tumors, which can invade the kidneys and subsequently cause compression of the sciatic nerve.

Common differential diagnoses for unilateral renomegaly include renal adenocarcinoma, lymphoma, and polycystic kidney disease. Renal tumors have been reported in many avian species but are particularly common in budgerigars. Renal carcinoma is the most common tumor of the kidney, but adenomas, nephroblastomas, cystadenomas, fibrosarcomas, and lymphosarcomas have also been reported.

Birds with renal tumors have a poor prognosis, and surgical resection may not be possible given the location and extent of abnormal tissue present.