History
A 9-year-old 34-kg (75-lb) spayed female Labrador Retriever was examined because of a distended abdomen. The dog was housed outdoors, and the owner had noticed that, over time, the dog had been gaining weight. However, the owner had not implemented a new dietary regimen, and the dog had not vomited or had diarrhea. On examination, the dog appeared bright, alert, and responsive. Abdominal organs were not palpable, and ballottement of the abdomen indicated that there was fluid within the abdominal cavity. Serum biochemical analyses did not reveal abnormalities. A right lateral abdominal radiograph was obtained (Fig 1).

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

Radiograph diagnosis—A large, homogenous, radiolucent mass in the caudal region of the abdominal cavity (Fig 2).

Comments

Differential diagnoses for a fat opacity within the abdomen include liposarcoma and lipoma. Abdominocentesis was performed, and a whitish viscous substance was obtained. Abdominocentesis is routinely performed in dogs, horses, ruminants, and nonhuman primates to distinguish gastrointestinal abnormalities that require medical treatment versus those requiring surgical treatment.1 For the dog of this report, surgical intervention was chosen on the basis of results of abdominocentesis. A laparotomy was performed, and a large, well-circumscribed, fluctuant fatty tumor with a minimal vascular supply was detected encapsulated in omentum. The mass did not involve abdominal organs or musculature. These features were consistent with lipoma. Ligatures were placed around the vessels supplying the tumor, and the mass was removed. The dog recovered well from surgery. Its body weight had decreased to 28 kg (62 lb) when discharged from the hospital 1 day later.

Lipomas are benign tumors of adipose tissue that are typically diagnosed in older spayed female dogs. They are the most common mesenchymal tumor in dogs.2 Breeds with a predilection for development of lipoma include Labrador Retriever, Doberman Pinscher, and Miniature Schanuizer.3 Factors that determine whether surgical removal of a lipoma is indicated include size and location of the tumor as well as owner preference. Infiltrative lipomas should be treated aggressively by surgical removal and radiation therapy. Liposarcomas should be removed by complete excision. Radiography is a useful diagnostic tool for detecting abnormalities within the abdominal cavity of animals. Intestinal foreign bodies, intussusceptions, and liver or spleen enlargement as well as tumor or tumor-like masses can be detected and treatment interventions initiated. The use of radiography proved to be a necessary diagnostic procedure for determining the size of this fat opacity and the extent of other abdominal organ involvement.


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