Tumor of the Gallbladder in a dog

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Signalement:

An 11 year-old neutered female Boston Terrier dog.

Clinical History:

The dog was presented for an acute episode of vomiting and hematemesis, few hours after ingestion of bones. Polydipsia and polyphagia had been also observed by the owners for several months.

Clinical findings:

The dog was alert and presented a moderate abdominal enlargement associated with a potbellied appearance, a moderate hepatomegaly and a ventral thin and easily wrinkled skin. Hypertension was also noticed (systolic blood pressure: 180 mmHg).

Diagnostic procedures:

Complete blood cell count, biochemical & hemostasis panel and urinalysis were performed. Results are in **Tables 1, 2, 3** and **4**. An abdominal ultrasonography was not suggestive of a digestive foreign body, and revealed a large intraluminal mass in the wall of the gallbladder associated with a diffuse and moderate hepatomegaly and a bilateral hypertrophy of adrenal glands (**Figure 1).**

Table 1: Hematology results obtained with the Procyte® (Idexx)

Analytes	Observed value	Reference Interval
HGB (g/dL)	10.9	12.0-18.0
RBC ($x10^{12}$/L)	4.65	5.50-8.50
HCT (L/L)	0.38	0.37-0.55
MCV (fL)	70.5	60.0-77.0
MCH (pg)	23.4	18.5-30.0
MCHC (g/dL)	33.2	30.0-37.5
PLT-I ($x10^9$/L)	788	175-500
WBC ($x10^9$/L)	12.8	5.5-16.9
Neutrophils ($x10^9$/L)	10.3 (80.7%)	2.0-12.0
Lymphocytes ($x10^9$/L)	1.3 (9.8%)	0.5-4.9
Monocytes ($x10^9$/L)	1.1 (8.8%)	0.3-2.0
Eosinophils ($x10^9$/L)	0.1 (0.5%)	0.1-1.5
Reticulocytes ($x10^9$/L)	139	< 110
Reticulocytes (%)	3.7	-

Table 2: Biochemistry results obtained with the Vitros 350® (Orthoclinical) and *Immulite® (Siemens)

Analytes	Observed value	Reference Interval
Total Proteins (g/L)	72	55-66
Albumin (g/L)	28	23-39
Glucose (mmol/L)	8.0	3.7-8.2
Na (mmol/L)	144	138-148
K (mmol/L)	4.0	3.2-5.0
Cl (mmol/L)	108	110-118
Creatinine (µmol/L)	100	44-133
Total Bilirubin (µmol/L)	4.5	1.7-12.0

GGT (U/L)	106	5-25
PAL (U/L)	475	20-155
ALAT (U/L)	383	3-50
*Cortisol T_0 (nmol/L)	58 .5	-
*Cortisol T_{0+1h} (nmol/L) ACTH stimulation test	877	< 500

Table 3: Urinalysis results

Analytes	Observed value	Reference Interval
Source	Cystocentesis	-
Color	Clear	Clear yellow
USG	1.020	1.015-1.045
pH	6	6-7.5
Sediment	< 5 cells / 40 PF	< 5 cells / 40 PF
Dipstick	Proteinuria +++	-

Table 4: Hemostasis results obtained with the SAC 2000 analyzer (Synbiotics)

Analytes	Observed value	Reference Interval
PT (s)	10	12-17
aPTT (s)	79	71-102

Figure 1: Ultrasonography of the liver and the gallbladder. Presence of an infiltrative mass in the wall of the gallbladder (within the yellow circle line)

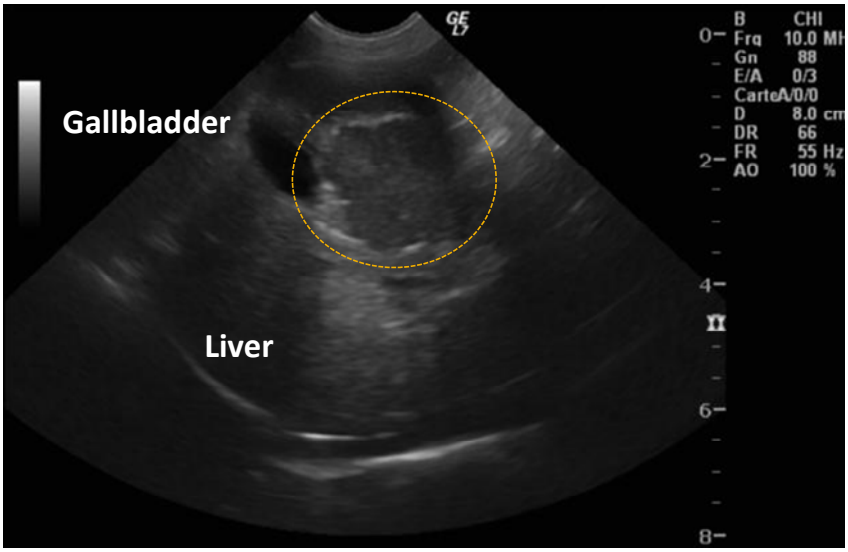
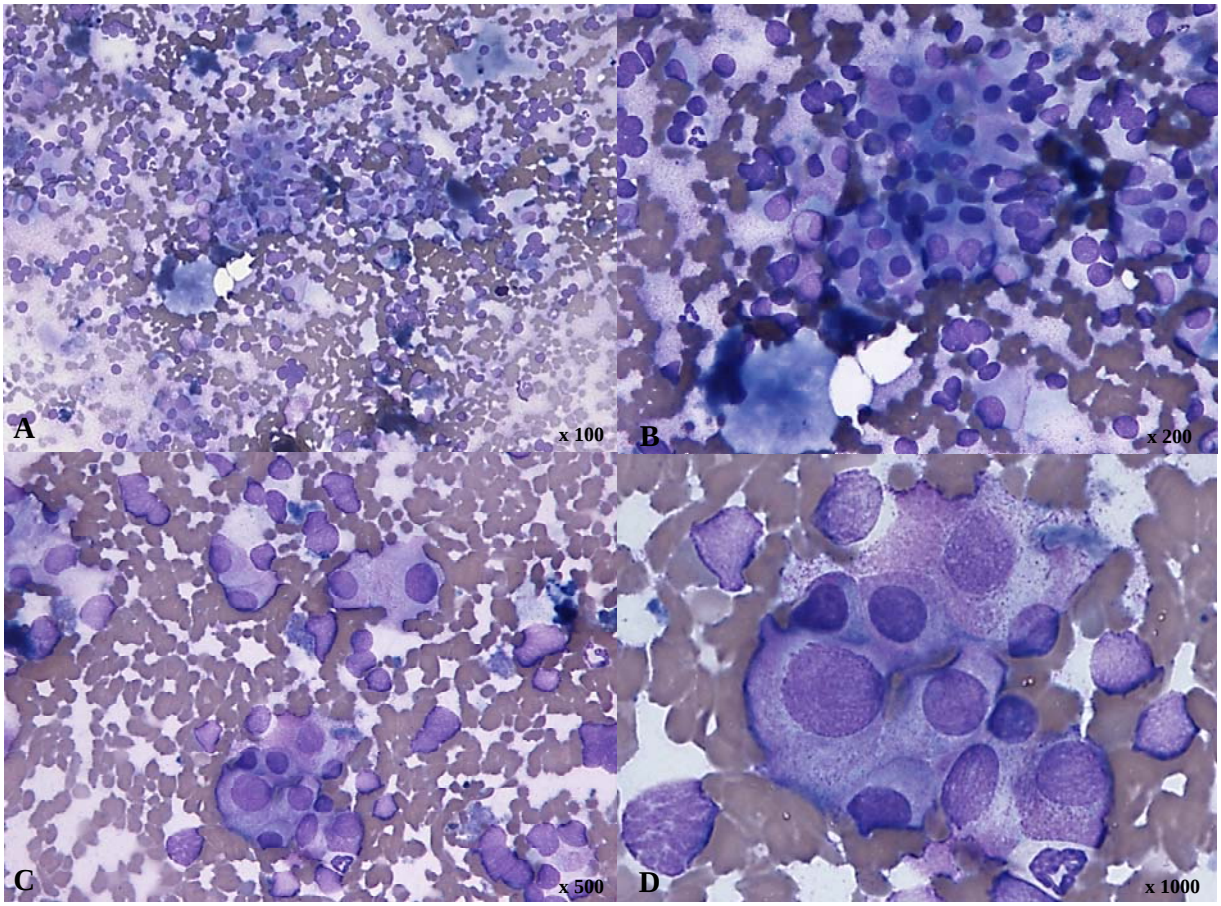


Figure 2: Cytology of the gallbladder mass (modified May-Grünwald Giemsa staining).



Questions:

1/ What is the most probable hypothesis for the diagnostic of the gallbladder mass?

2/ What further diagnostic procedures could you use to confirm this hypothesis?

3/ Give the differential diagnosis of the hyperadrenocorticism in this case?