

CONTRIBUTOR NAME*	Harold Tvedten
CONTRIBUTOR EMAIL*	Harold.tvedten@slu.se
COAUTHORS	
COMPANY OR UNIVERSITY	Swedish University of Agricultural Sciences UDS Box 7038 SE-750 07 Uppsala Sweden

* Corresponding contributor

SPECIMEN: Abdominal fluid smears, photomicrographs, data

SIGNALMENT: An 8-year-old, male border terrier.

HISTORY AND CLINICAL FINDINGS:

Nils had an acute onset of vomiting yellow green, somewhat slimy vomit (Day 1 = Dec 19 2018). He was tense and painful in the abdomen and appeared worried.

LABORATORY DATA:

Clinical Chemistry results Day 1

Test	Patient	Reference values
C-reactive protein	90 mg/L	< 7
S-Protein	47 g/L	56 -75
S-Albumin	18 g/L	27- 37
S-Glucose	5,8 mmol/L	3,5 -5,8
S-Fructosamine	208 umol/L	250 -400
S-Creatinine	83 umol/L	46 -115
S-Urea	10,2 mmol/L	2,5- 8,8
S-ALAT	3,0 ukat/L	0 -1,3
S-ALP	80,4 ukat/L	0 -2,2
S-GT	2,9 umol/L	0 -0,15
S-Bile acids fasted	552 umol/L	0 -12
S-Bilirubin, total	75,2 umol/L	0-3,2
S-Calcium total	2,3 mmol/L	2,3-2,8
S-Phosphate	2,9 mmol/L	0,8 -1,9

HEMATOLOGY DATA Advia 2120 Automated and Manual Results Day 1:

Test	Patient	Reference Values
Hematocrit	59 %	38-57
WBC	$19.1 \times 10^9 /L$	5.8-16
Neutrophils seg	$16.4 \times 10^9 /L$	3-11.5
Neutrophils band	$0.2 \times 10^9 /L$	0-0.3
Lymphocytes	$0.4 \times 10^9 /L$	1.4-4.8
Monocytes	$2.1 \times 10^9 /L$	0.2-1.4
Platelets	$540 \times 10^9 /L$	170-490

Urinalysis

Physical exam: 1.038, brown-green color

Chemical exam: 3+ protein, 2+ blood, 1+ glucose. ketones negative

Microscopic exam: 10 granular casts/lpf, 3 WBC/hpf, 2 RBC/hpf, moderate number of bilirubin crystals

Abdominal Fluid Analysis

Day 1 Bloody fluid with gross clumps in it so no WBC count performed. WBC differential count was 91 % neutrophils, 9 % macrophages and occasional mesothelial cells. No bacteria were seen. See figures 1-4.

Day 14 (January 2, 2019) WBC count Advia Baso: $10.5 \times 10^9 /L$; Advia Perox $11.9 \times 10^9 /L$. See figure 5 and slide in the slide set.

Questions

1 What is/are the material(s) found in the background of the abdominal fluid cytological smears taken 2 weeks apart (Figures 1-5)? Explain the difference chemically and pathophysiologically.

- a. Fibrin clots
- b. Cryoglobulin
- c. Cryofibrinogen
- d. bile
- c. amyloid

2. Why was the albumin low? Serum albumin Day 1: 18 g/L, day 3: 13 g/L day 4: 11 g/L, day 5 19 g/L (RI 27- 37). The veterinarians in charge of the case were very concerned and asked us to analyze it often.

- a. Protein loss in the urine.
- b. Blood loss
- c. Hepatic failure
- d. Abdominal fluid loss via drainage tube

Figure 1

Gross photo of 2 direct smears of abdominal fluid day 1

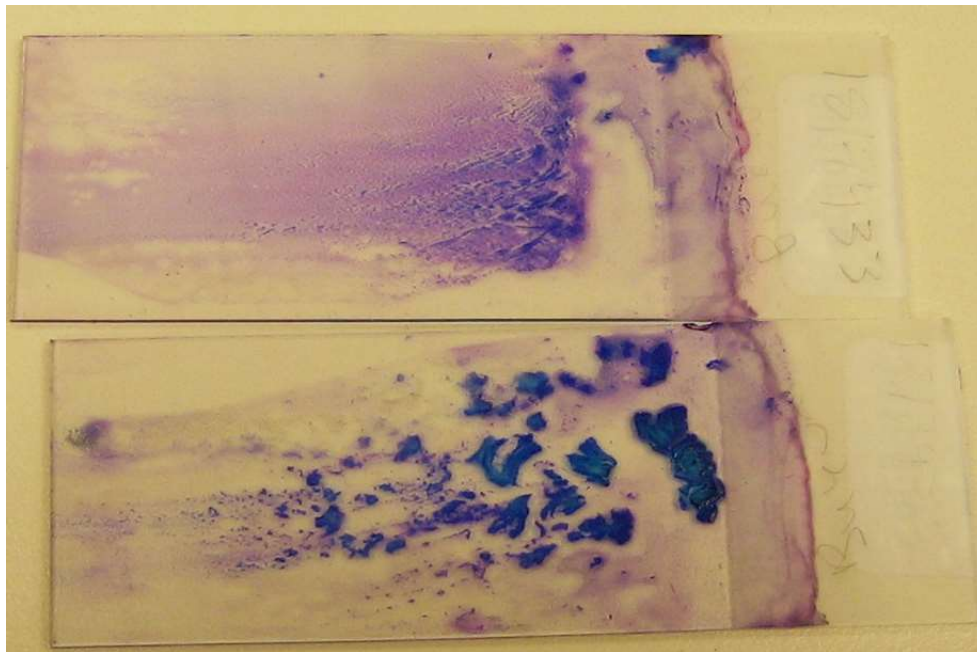


Figure 2 Abdominal fluid smear day 1, May Grunwald Giemsa original magnification 20X. Use erythrocytes (7 um) for size comparison.

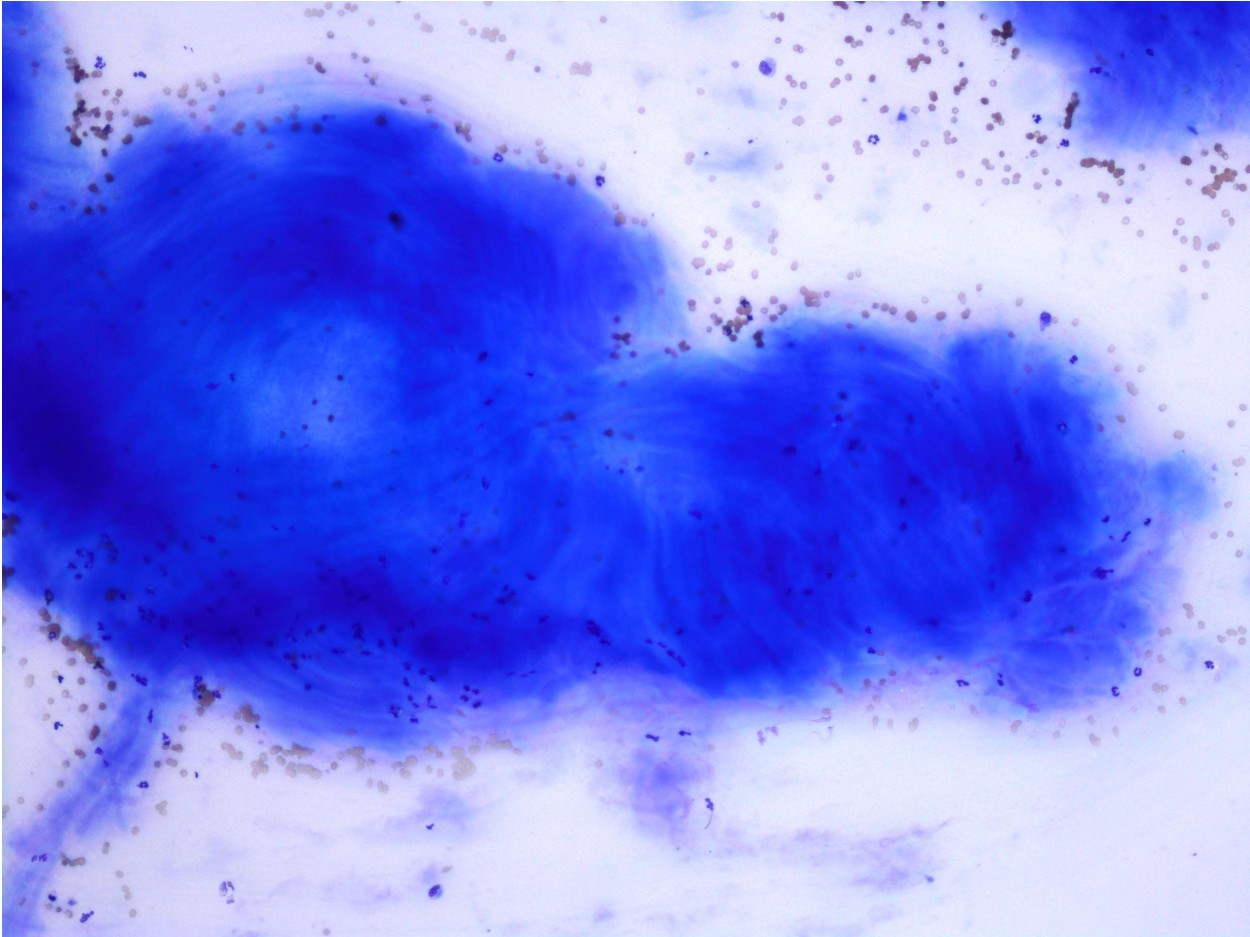


Figure 3 Abdominal fluid smear day 1, May Grunwald Giemsa original magnification 100X. Use erythrocytes (7 um) for size comparison.

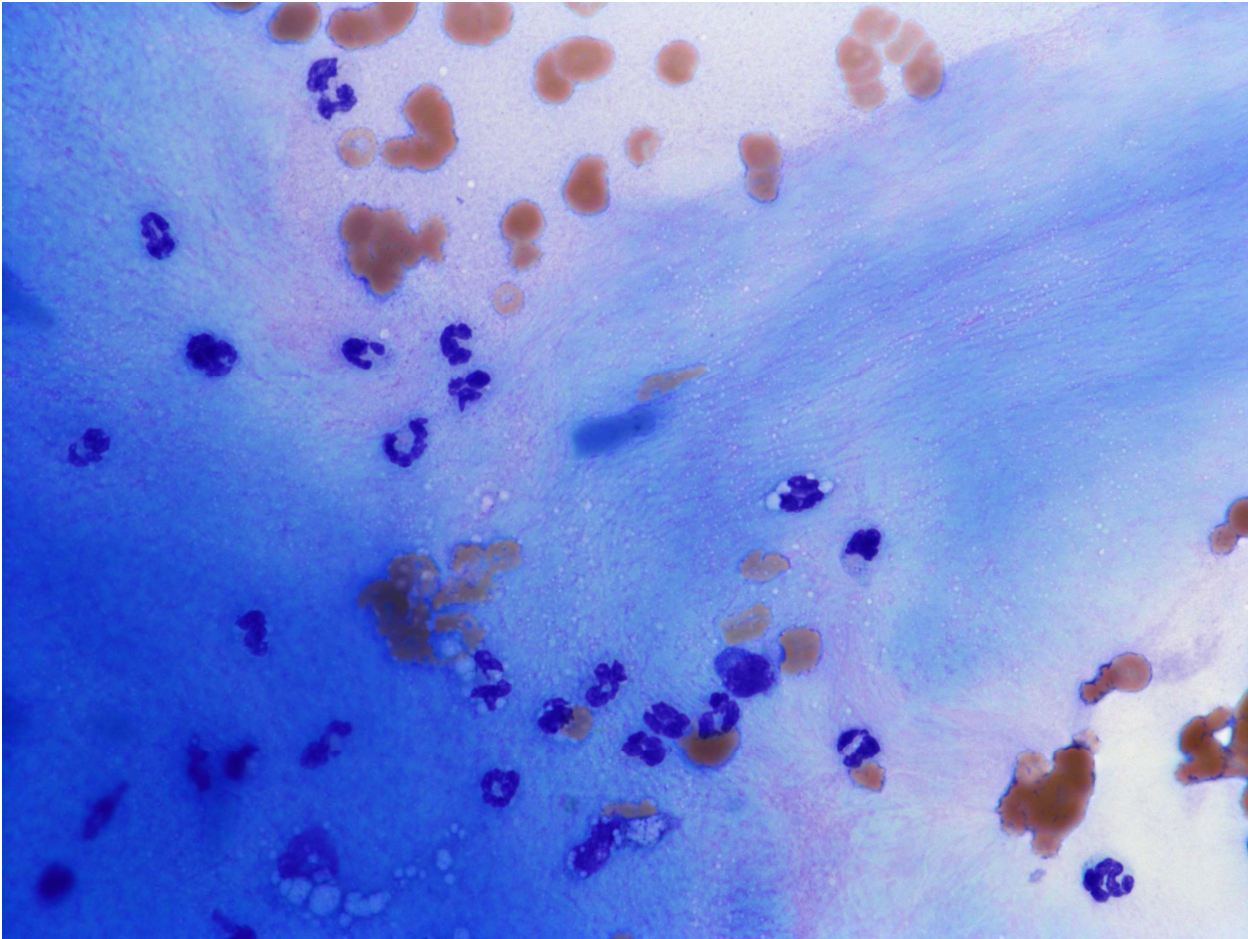


Figure 4 Abdominal fluid smear day 1, May Grunwald Giemsa original magnification 100X. Use erythrocytes (7 um) for size comparison.

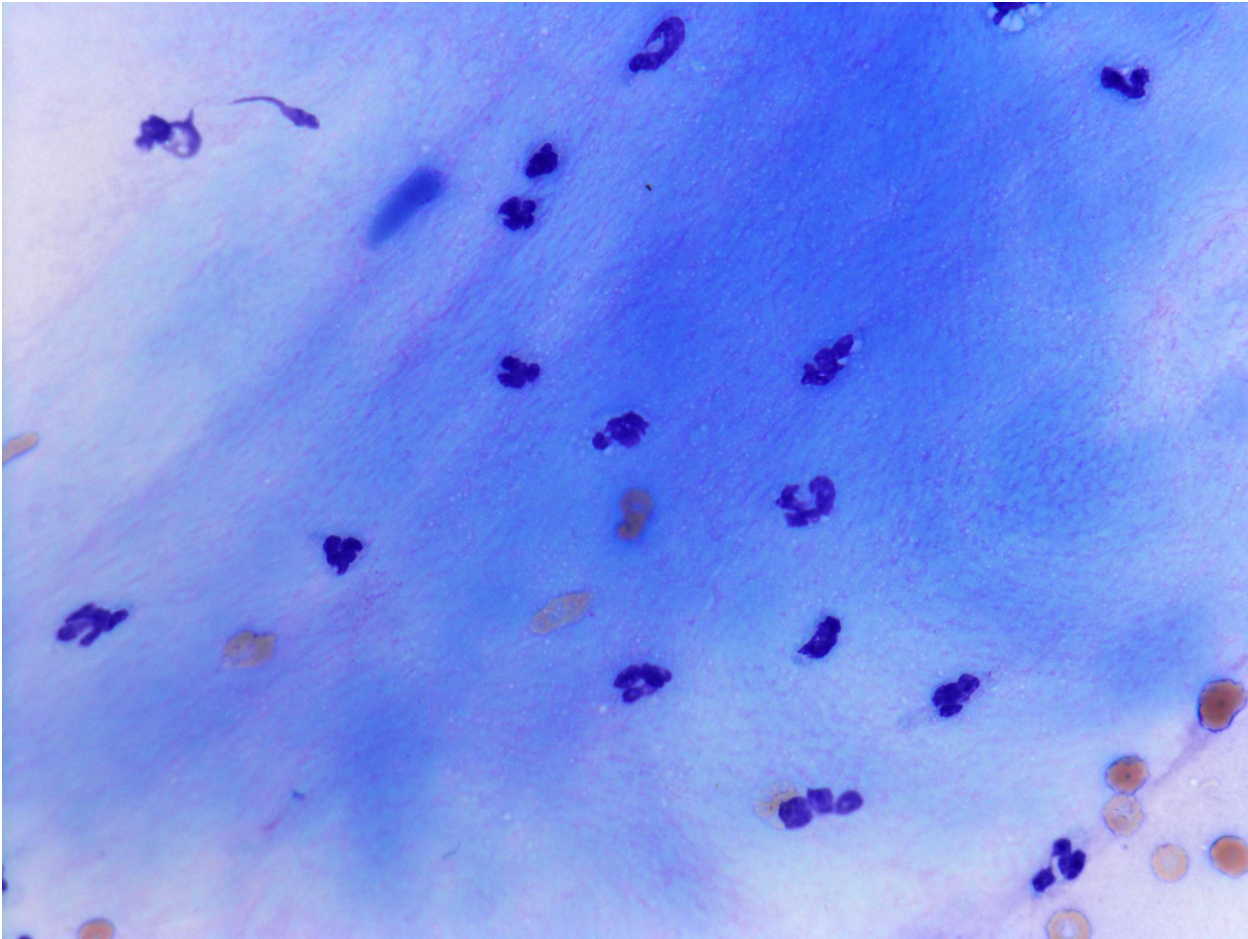


Figure 5 Abdominal fluid smear day 14, May Grunwald Giemsa original magnification 600X. Use erythrocytes (7 um) for size comparison.

