

### **Unusual findings in ovine cerebrospinal fluid**

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**Signalment:** 4 year old, female, Texel cross ewe.

**History:** The ewe was a homebred breeding ewe on a farm in the Scottish Borders. The flock was composed of 530 ewes and 150 ewe hogs which were housed from January to April. The ewes had been dosed for liver fluke in the previous autumn but not treated for worms, and had no worm treatment at lambing. Nematode parasites were effectively controlled by integrated evasive/anthelmintic strategies and fluke was controlled with 2 or 3 treatments per year.

The farmer noticed the ewe was recumbent in the field. This was the only animal affected at that time but several ewes had died over the grazing season, on the same field, and these occurrences had not been investigated. This field is situated by a river in the middle of a large village, and is used by many members of the public for walking their dogs.

The ewe was first examined on farm on the 7<sup>th</sup> October 2009.

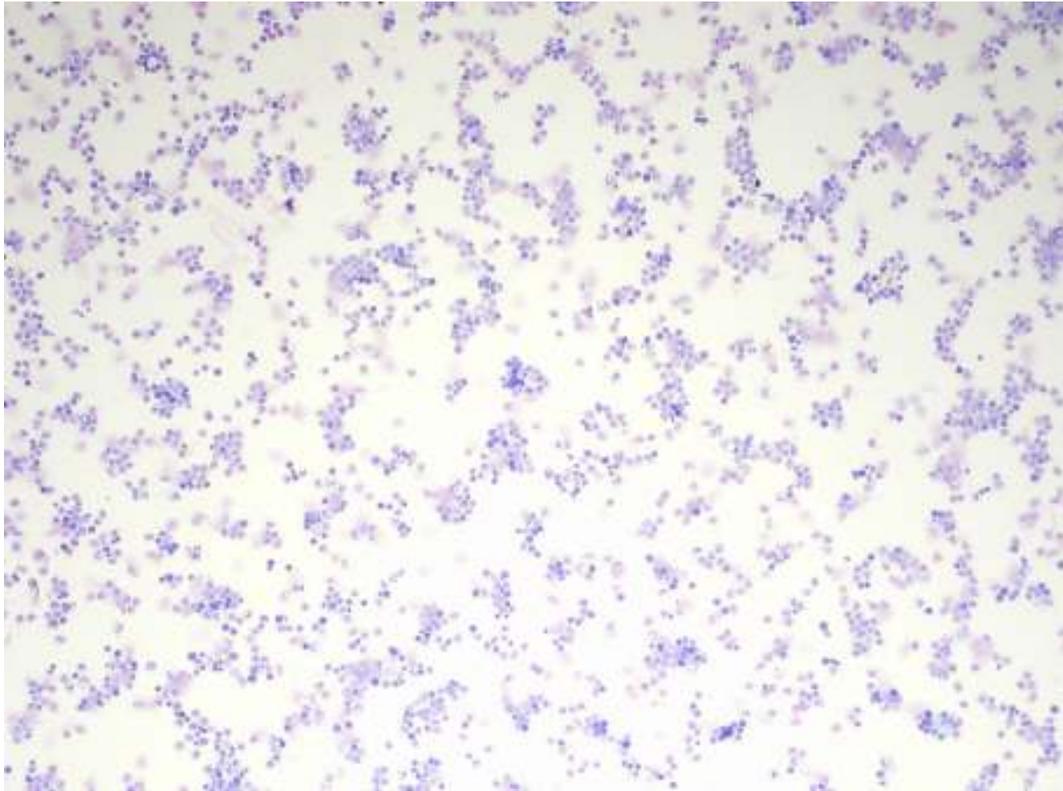
**Clinical findings:** The ewe was in good body condition, recumbent, weak and uncoordinated. She could stand only when assisted and preferentially laid on her right side. She demonstrated mild hyperaesthesia and dorsiflexion of the neck. There was traumatic corneal damage to the right eye.

Neurological examination demonstrated that spinal limb withdrawal reflexes and proprioceptive reflexes were present but difficult to assess. The menace reflex and pupillary light reflex were positive bilaterally, and there was no nystagmus or strabismus.

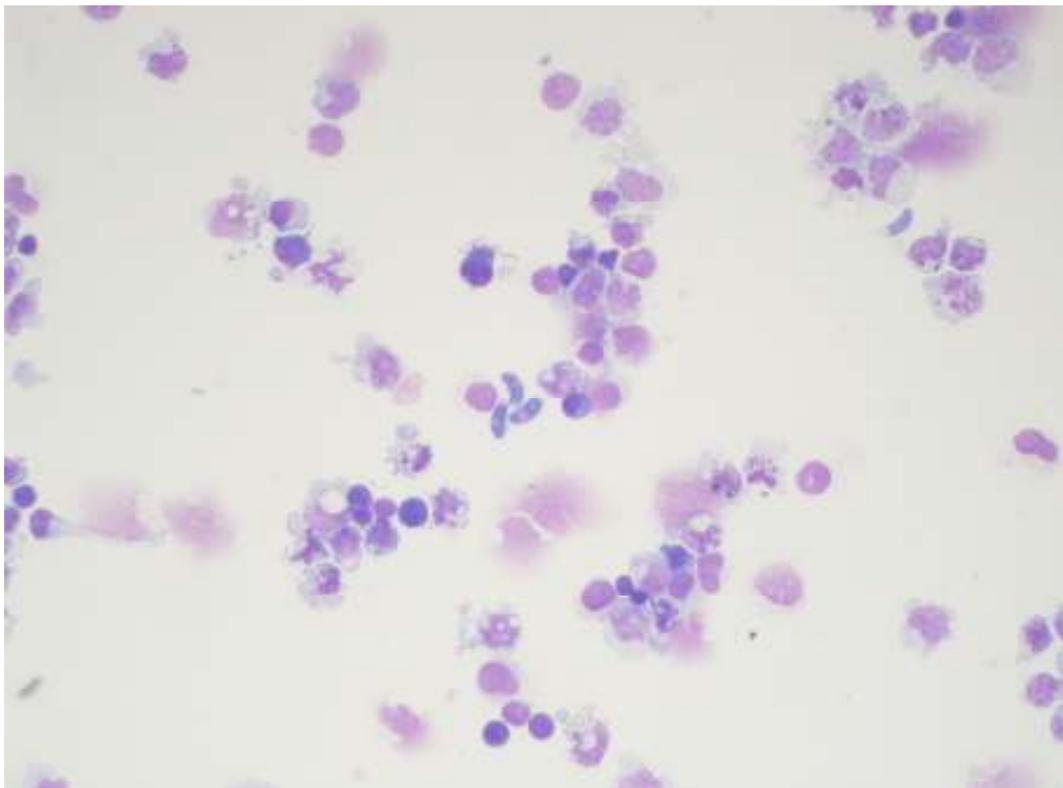
The ewe was treated with dexamethasone, vitamin B1 and penicillin but as the signs were not entirely typical of cerebrocorticonecrosis and in view of the field history, a CSF sample from the lumbosacral space was collected to investigate other possible causes.

#### **CSF analysis**

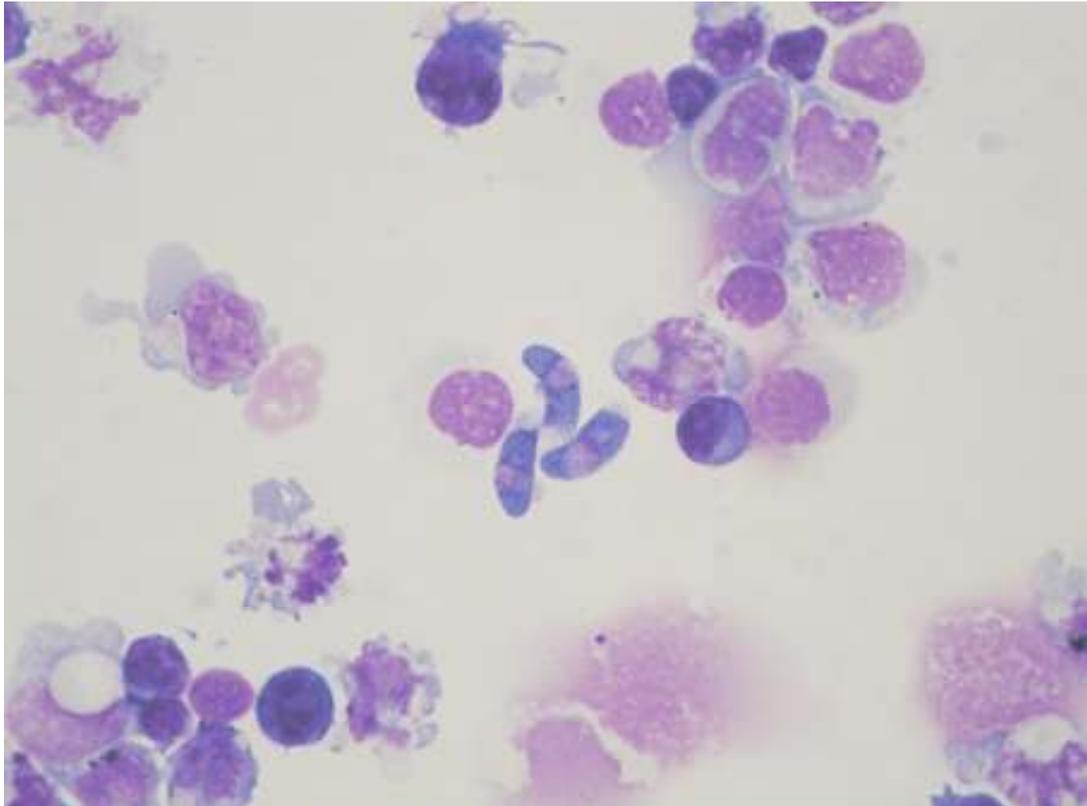
		Sheep reference intervals
<b>Appearance</b>	Slightly turbid	Clear
<b>Specific gravity</b>	1.012	<1010
<b>Total protein</b>	2.19 g/l	<0.4 g/l
<b>Total cell count</b>	$0.679 \times 10^9/l$	$<0.01 \times 10^9/l$



**Figure 1** Cytospin of 100µL from CSF. May-Grünwald Giemsa stained, x100.



**Figure 2** Cytospin of 100µL from CSF. May-Grünwald Giemsa stained, x400.



**Figure 3** Cytospin of 100 $\mu$ L from CSF. May-Grünwald Giemsa stained, x1000 oil.

**Questions:**

What is your preliminary diagnosis?

Which other tests would you carry out to obtain a definitive diagnosis?