



Claire E Whitehead, BVM&S
MS DACVIM FHEA MRCVS

Camelid Veterinary Services
Ltd
United Kingdom

claire@ukalpacavet.com

SELECTED CAMELID CLINICAL SCENARIOS

The Recumbent Camelid

Many sick camelids will be recumbent through weakness. Physical examination should rule out fractures, joint issues or other injury. Attempts to get the patient to stand up should always be made. Observation of the standing/walking animal allows differentiation of neurological problems and permits some neurological tests. Most components of the neurological exam can also be done on a recumbent animal. If fractures or spinal injury are suspected, consider radiographs.

Recumbent camelids should be assisted to remain in sternal recumbency and kept on deep clean bedding such as straw, moving them regularly to keep them clean. Patients should be assisted to stand several times daily if they are able to rise, and to assess improvement if they were not previously able to do so. Patients that are recumbent may need physiotherapy.

The Neurologic Camelid

Camelids suffer from various neurological problems including vertebral injury and abscessation, polioencephalomalacia (or cerebrocortical necrosis), otitis interna/media, listeriosis and meningitis. Firstly the clinician must determine whether the neurological signs are due to a lesion in the nervous system. Haematological and biochemical profiles may help to identify metabolic differentials: CSF analysis is helpful for establishing if a disease process involves the CNS. The next step is lesion localisation, requiring a thorough neurological examination including evaluation of the cranial nerves. The final step is determine the cause of the neurological lesion. This will require further diagnostics, for example CSF analysis, radiographs or CT/MRI.

In spinal injury lesion location, age of patient and severity of deficits are useful prognostically. Cervical vertebral injuries are well tolerated by adult camelids: however instability or growth (in youngsters) affect prognosis. Stall rest and NSAIDs are usually advised. For spinal lesions, consider vertebral abscessation or discospondylitis. Fibrinogen may be increased in chronic inflammation of bacterial origin.

Vestibular signs commonly suggest otitis interna/media, usually in the absence of otitis externa: in combination with facial nerve deficits may suggest significant otitis interna. Polioencephalomalacia (or CCN) is diagnosed in alpacas not uncommonly. Typically, presentation is acute-onset blindness and depression. Neurologic examination will typically show absent/reduced menace response with normal/reduced PLRs: ophthalmic examination reveals no obvious cause for the absent menace suggesting cortical blindness. The patient may have reduced facial sensation and palpebral reflex. Polio requires aggressive treatment: 10-15mg/kg thiamine hydrochloride q4 hours, continuing until several days after resolution of clinical signs, plus mannitol therapy (1g/kg IV, over 20 mins). Supportive therapy may be required.

The Anaemic Camelid

Anaemia is a common finding in camelids. There are many potential causes. The most are gastrointestinal parasitism (especially *Haemonchus*), *Mycoplasma haemolamae* infestation, blood loss anaemia and anaemia of chronic disease. Diagnostics include faecal examination, haematology and biochemistry: more complicated or chronic anaemias may require more specific tests. Key points:

1. Camelids can be alive – and survive – with PCVs as low as 3%.
2. Severe anaemia can result in physiologic cardiac murmurs (usually only up to grade III/VI).
3. Always evaluate a faecal.
4. Check pre-transfusion haematology including evaluation of a FRESH BLOOD SMEAR! Evaluate your own smears in an emergency and check PCV/TP for a more immediate (and cheap) impression of severity in severe anaemia.
5. Blood transfusion should be considered for all camelids with PCV of <12%: donor matching is not normally required.

The Colicky Camelid

Colicky episodes occur in camelids although they are less demonstrative than horses in terms of clinical signs. Lesions affecting distal small intestine or spiral colon cause the most severe clinical signs, while forestomach problems result in less severe colic. Camelids with abdominal pain separate themselves from the herd, become recumbent or appear quiet and depressed. They will be inappetent, and may flare their nostrils

which is a sign of increased respiratory rate or distress. Occasionally they will roll or sit with their legs out to the side and shift positions frequently, rarely they will kick out. Increased respiratory rate is frequent, but increases in heart rate are not consistent findings. Gut sounds may be reduced, or increased depending on underlying cause. Thorough physical examination should include checking the rectum for faecal quantity and character – absence of faeces may suggest obstruction. Abdominal ultrasound is extremely useful for assessing alterations in intestinal distension and motility, peritoneal fluid volume and organ appearance. Bloodwork may be helpful. C1 fluid collection via orogastric tube may be useful diagnostically and peritoneal tap is best performed on the right flank rather than on the midline.

Many causes of colic can be treated medically but surgical causes should be ruled out. IV fluid support is often required for cardiovascular support. Indications for surgery are similar to those for other species.

Reproductive Problems

Female camelids are almost *always* either pregnant, lactating, or both. Therefore, reproductive status must always be considered when evaluating sick female camelids. Late in pregnancy consider metabolic demands and obstetric complications including uterine torsion or dystocia. Uterine torsion may present at any time in the last few months of pregnancy and results in signs similar to non-progressive labour – discomfort, pushed with legs out to the side, shifting position regularly: nostril flare indicates increased respiratory rate. Uterine torsion must always be ruled out in late term pregnancy via rectal palpation: except at full term vaginal palpation is not possible in alpacas and most torsions occur *cranial* to the cervix. Cervical dilation will *not* occur in torsion.

Dystocia can be resolved by c-section where required. Perform in a manner similar to that for a small ruminant, with close attention to sterility.

Camelids may suffer from a negative energy balance situation similar to pregnancy toxaemia in sheep with the following important differences:

- Camelid patients often exhibit *hyperglycaemia*
- Both ketoacidosis and hyperlipaemia are possible
- Affected camelids may exhibit colic due to hepatic lipidosis if advanced
- C-section is not recommended: pursue medical management to stabilise the dam, the cria will usually abort spontaneously.

In lactating females, consider metabolic demands but also other post-partum considerations common in other species such as metritis and RFM.