VETCT
CONSULTANTS IN TELEMEDICINE

REPORTING SERVICE: Internal Medicine

Report number: TELE-00000 Report date: 01/09/2014

Referring Veterinarian:

Referring Practice:

Email address:

Owner: Patient:

Species: Canine Breed: Cocker Spaniel Sex: Male Age: 12 years

Associated cases: None

Clinical History:

0n 15/08/2014 the dog presented with discharge from his right nostril since the owner removed a grass stalk from the right nostril .

* He was booked in for a General Anaesthetic, examination and radiology but he improved and owner was not keen on an anaesthetic, so we did a blood test as on examination his mm appeared a little pale.

* Bloods showed azotemia with anaemia so a raised a suspicion of chronic renal disease. Subsequent urine protein:urea concentration was very high and he was started on renal diet and ACE treatment .

* Follow up blood test showed lowered Blood count and low reticulocytes .

* He is well in himself until yesterday

* Eats about 50% of renal diet and drinks about 1.5 L water a day. No vomiting, normal stools, no blood /discharge from nose

* Eager for walks but gets tired quickly. Sleeps very deeply and doesn't hear owner coming in.

t. +44 (0)1223 422251 www.vetctspecialists.com e. info@vet-ct.com
Co Number 6955449 Registered Office St John's Innovation Centre Cowley Road Cambridge CB4 0WS UK

Questions to be answered:

1. Is erythropoietin /darbepoetin treatment recommended in this case?

2. What further diagnostics would be recommended?

3. What differentials to expect?

4. Prognosis long term and short term if possible?

Diagnostic interpretation:

The dog has an azotaemia that has been persistently noted on multiple biochemistry samples since 07/03/14 (values from initial blood work not provided). This is coupled with weight loss, moderate polydipsia, inappropriately dilute urine and moderate proteinuria leading to the certain diagnosis of chronic kidney disease (IRIS Stage 2, P, AP-RND). The azotaemia is markedly more severe in the biochemistry dated 19/8/14 compared to the more recent sample from 3/9/14 and the reason for this discrepancy is not clear. Given the recent epistaxis that was noted in mid-August, a pre-renal azotaemia due to hypovolaemia at the time of the earlier bloodwork is a possibility. Although a change to a renal diet may explain modest reductions in urea and phosphorus, the similar reduction in creatinine cannot be explained by a diet change and from the records provided there does not appear to have been a significant reduction in muscle mass between these time points to account for this shift either, further supporting hypovolaemia at the earlier time point, with the more recent bloodwork being more representative of the chronic state. If the above assumption of hypovolaemia in mid-august is accurate then there has not likely been any significant change in haematocrit or albumin between these time points either, but rather dilution due to restoration of circulating volume, indicating that the patient is generally quite stable with respect to these parameters.

The patient's anaemia is unusual for several reasons: The reticulocyte count from the latest haematology sample indicates a non-regenerative anaemia based on the absolute reticulocyte count yet there is anisocytosis, marked macrocytosis and hypochromasia, which all strongly suggest a regenerative anaemia. Additionally, anaemia due to chronic kidney disease is very uncommon in dogs, only typically being seen in IRIS stage 4 patients or those with renal dysplasia leading to early onset disease. It is noteworthy that there is a thrombocytosis and also that the urea is persistently markedly more elevated than the creatinine in a patient that does not apparently have marked muscle wasting. The above observations lead me to the conclusion that the anaemia is likely secondary to blood loss rather than CKD, with a spuriously low reticulocyte count. Given the raised urea it appears that this blood is passing through the GI tract and thus is likely to either be blood that is being swallowed from a nasal/pharyngeal lesion or GI tract bleeding (possibly secondary to CKD/hypovolaemia or possibly from another unidentified, unrelated disease). Given the history in this patient and the lack of inappetance etc, a bleeding nasal lesion is the favoured suspicion.

Recommended treatments and further tests:

Further testing can be broadly divided into 2 categories – further investigation of CKD and investigation for the cause/source of suspected bleeding.

To investigate CKD further, this should consist of looking for underlying causes and also staging/identifying complications. Cocker Spaniels are over represented for CKD and so it is likely that no underlying cause will be found but consider the following investigations:

• Urinary Tract ultrasound to look for evidence of neoplasia, ureteral obstruction, vascular lesions and/or pyelonephritis

• Imaging of the rest of the abdomen and thorax to look for other inflammatory/neoplastic conditions that may have led to paraneoplastic glomerulonephritis (unlikely based on degree of proteinuria)

• Given the travel history of this dog, consider testing for infectious diseases associated with proteinuria (ehrlichia, anaplasma, borrelia, leishmania). Again, these are considered unlikely in this specific case

• Measurement of blood pressure is vital in this patient as hypertension may be associated with CKD, proteinuria and epistaxis. If hypertension is identified then adrenal imaging should be considered to see if a non-renal cause of hypertension is present.

• Urine should be cultured to look for occult urinary tract infections. With respect to investigating suspected bleeding:

• As noted above, elevated blood pressure as a potential cause of epistaxis should be investigated. The presence of serous/purulent discharge on occasion cannot be directly explained by hypertension but secondary rhinitis following blood clot accumulation may still make this possible.

• Consider CT or MRI of the nose to look for evidence of foreign bodies, neoplasia or oro-nasal fistulas etc

• If nasal/pharyngeal bleeding is excluded then GI bleeding should be further investigated. Consider abdominal ultrasound and endoscopy for this purpose. Faecal occult blood tests can be considered to confirm the presence of blood in the GI tract but this testing requires an exclusion diet prior to testing and multiple sample collections to be reliably interpreted so is generally not worth doing.

• Continued monitoring of the anaemia is advised to ensure that transfusions are not required and so that the development of iron deficiency (manifested as a decreasing MCV) can be identified.

Recommended treatments:

Treatment will very much depend on the results of investigations above. In general terms, there is clear indication for introduction of a low protein, low phosphorus renal diet (already commenced) and ACE inhibitors (already commenced). The most recent phosphorus concentration remains above the IRIS recommended target value for stage 2 dogs (1.5mmol/L) and so if this is not addressed by further transition to a renal diet then phosphorus binders (Aluminium hydroxide, Lanthanum, Epakitin TM etc) should be considered. If hypertension is present then amlodipine should be used as the next agent (following ACE inhibitors) to address this. Given the possibility of GI bleeding and possible decrease in appetite then antacids (eg ranitidine) should also be considered. Urinary tract infections or other diseases identified from the above investigations should be treated as required.

Additional comments:

Based on the above comments, I hope it is clear that at this stage erythropoietin or other such analogues are not indicated at this stage. Similarly, it is difficult to prognosticate without the results of the further testing advised above. Stage 2 CKD in dogs has recently been reported to have a median survival time in excess of 500 days (O'Neill et al, JVIM 2013) and so if this is the only disease present the prognosis can be considered good, but if a nasal tumour etc is present the prognosis may be significantly poorer with survival times of 3-23 months reported, depending on the size/nature of the tumour and the therapy employed.

If no bleeding is identified on further investigation and repeat haematology samples identify a more convincingly non-regenerative anaemia then the possibility of a renal anaemia does exist and if it is associated with lethargy EPO/Darbopoetin may be considered. In this eventuality there is little information available in dogs but given the potential for a long survival in all other respects, darbopoetin would be favoured in case recombinant erythropoietin led to a refractory anaemia. Please note that the treatment guidelines are generic and appropriate consideration should be given to local licensing regulations before specific products are prescribed or administered.

Kind regards,

Reporting Specialist:

Dr Mayank Seth, BSc(Hons), BVetMed(Hons), DACVIM(SAIM), MRCVS

If you have any queries regarding this report then please "Add a comment" on the VetCT platform or contact info@vet-ct.com