

CTDS News

April brings the first anniversary for CTDS and for those of you who have been with us since the very beginning – watch your letter boxes ! We have been asked a lot recently to about COSHH assessment forms for formalin, postal packing instructions and information on quality control. We have documents to cover all of these topics which you are welcome to have if you think it would help. Allergy season appears to be upon us and we are pleased to be able to provide immunotherapy, as well as “in-vitro” allergy testing. Please contact the laboratory for further information.

Telemedicine – FAD or Future?

Telemedicine has been defined as the use of medical information exchanged from one site to another via electronic communications to improve patients' health status. There are many different facets of telemedicine emerging in human medicine including remote patient monitoring and video consultations. However in veterinary medicine the emphasis to date has been on the use of experts to interpret data remotely from the patient, allowing their input to be obtained on cases wherever they are located. At CTDS we offer three telemedicine services: teleradiology, telectyology and in-house laboratory result interpretation.

Here is an example of how teleradiology can work in practice.

Louis is a 9 year old Rottweiler who was presented to a practice in Orkney for a swollen left elbow. Radiographs were taken of both elbows and synovial fluid from the left elbow was submitted to us for examination. The X-rays revealed a very clearly demarcated osteolytic lesion in the left ulna (see figure below) with some mild peripheral osteophyte formation. Louis' right elbow appeared completely unaffected (see figure above) The diagnostic dilemma from the radiographs however was whether the lytic lesion reflected a congenital lesion such as OCD or an acquired lesion such as an osteolytic tumour. The



joint fluid cytology supported the presence of a mesenchymal tumour (suspected synovial cell sarcoma) but as is common with tumours of this type the specific cell of origin could not be definitively be determined. The X-rays were submitted to us by post, were digitally scanned and sent electronically to our consultant

radiologist Dr Chris Lamb.

Chris confirmed the suspicion that osteolysis was likely to reflect a neoplastic process and the presence of a synovial cell sarcoma. His report was issued the same day that the radiographs were scanned.

In essence this service is like having a Diplomate in Radiology available on tap to your practice and at £21 for examination of up to 6 films offers great value. Digital pictures can also be taken at the practice and these can be emailed to us for onward transmission, obviating the need for the X-rays to leave the practice. Telectyology is where a digital camera is used with the practice microscope to capture images of blood or tissue cells and these are sent as an email to the lab for interpretation. Many microscopes now have attachments for cameras and even if not it is worth experimenting with a

camera held to the normal eyepiece. It is important to ensure that the flash is turned off and there is no movement blur.

This service can be used to help identify cells, lesion types, infectious agents etc and as an aid to training in microscopy at all levels within the practice. The reports are available same day so often the client can have an answer by the time the patient goes home.

In-house lab result interpretation usually uses the fax with the patient history, lab results faxed in for a same day comment with differential diagnoses and suggested follow up discriminatory testing if appropriate. These results are retained at the lab so the findings of any additional tests we undertake can be integrated with the practice data.

Telemedicine however is not just a one way channel of communication and the provision of education into practices is an increasingly important component. Our website www.ctdslab.co.uk already carries information on many aspects of lab medicine, sample requirements, sample handling, digital images of blood cells and is regularly updated. If have not visited already, have a look and let us know what you would like to see added.

DIC (disseminated intravascular coagulation)

Disseminated intravascular coagulation (DIC) occurs when the blood clotting mechanisms are activated throughout the body instead of being localised at an area of injury. Small blood clots form throughout the body, and eventually deplete the blood clotting factors so they are not available to form clots at sites of tissue injury. Clot dissolving mechanisms are also increased. This disorder is variable in its clinical effects, and can result in either clotting symptoms or, more often, bleeding. Bleeding can be severe. DIC may be stimulated by many factors including infection in the blood by bacteria or fungus or severe tissue injury.

We are pleased to be able to offer D-dimer testing for the investigation of haemostasis and canine. D-dimer is thought to be a more specific indicator of fibrinolysis, than FDP, since its formation requires the action of thrombin (to activate factor XIII) that produces cross-linked fibrin that is then cleaved by plasmin. Fibrin degradation product (FDP) assays in contrast do not distinguish between the action of plasmin on fibrinogen (fibrinogenolysis) from its more important action on fibrin (fibrinolysis). Because of this FDP's can be elevated in the absence of clots and simply as a result of plasmin cleaving fibrinogen. It is reported that high D-dimer values are seen in dogs with DIC, and the test is a very sensitive indicator (reported close to 100%¹) of fibrinolysis in dogs with this disorder.

D-dimer:

Sample requirements: 0.5ml Citrated Plasma (coag tube)

Request code: DDIM

Price: £12 + VAT

D-dimer may be performed in addition to our existing coagulation profile (full haematology +PT +APTT) or just a PT/APTT screen. Please call the lab for assistance with specific cases.

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