Vetpath is a specialist veterinary laboratory dedicated to providing our clients with the finest laboratory diagnostic service. A team of veterinary pathologists and medical scientists with extensive experience in veterinary diagnostic pathology forms the core of the Vetpath team.

VNews

VETPATH LABORATORY SERVICES

SEPTEMBER 2017

Canine aspergillosis

Aspergillosis is an important disease entity in dogs and selecting the best diagnostic tests can sometimes be confusing.

Aspergillus sp. infection in dogs is usually either sino-nasal (localised) or systemic. Nasal aspergillosis is most often caused by *A. fumigatus* and *A. flavus*, and is most commonly seen in non-brachycephalic (long nosed) breeds. Systemic aspergillosis is usually caused by *A. terreus* and *A. deflectus* and results in infection of the intervertebral discs, bones, thoracic lymph nodes, lung and renal pelvis. Young German Shepherd dogs, especially the females, are overrepresented, possibly due to hereditary IgA deficiency or dysfunction leading to defective mucosal immunity. A localised bronchopulmonary form of aspergillosis is also sometimes seen in dogs.

There are a number of laboratory-based testing options available to choose from. These include:

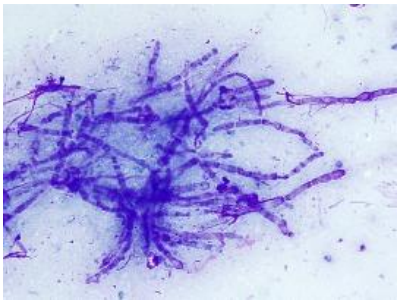
Urine Aspergillus check: Urine sediment is examined for fungal hyphae on the day of submission and again 24 hours later. This is useful for *systemic aspergillosis*, but not localised forms, and is fairly specific but not a very sensitive test.

Cytology/histopathology and culture: Fungal hyphae and inflammation may be identified, however culture is required to definitively identify the organism. The test is more sensitive if a sino-nasal fungal plaque or an affected tissue are directly sampled, and a negative result does not rule out infection.

Aspergillus serology: This is a precipitin test for antibodies in serum. It indicates exposure to organisms, though not necessarily active infection. The test is moderately sensitive, with fairly good specificity for *nasal aspergillosis* (although it does not definitively rule out non-fungal rhinitis), but not as effective for detecting systemic aspergillosis.

Galactomannan: This is a serum test that detects a cell wall component of *Aspergillus sp*. The sensitivity and specificity are good for *systemic aspergillosis*, but not as good for localised disease. Other fungal infections or treatment with Penicillium-derived antibiotics (amoxicillin-clavulanate, B-lactam antibiotics), or Plasmalyte fluid may result in cross-reactions and false positive results.

PCR on EDTA blood: This has low sensitivity but good specificity for *systemic* Aspergillosis.



References:
Garcia RS et al. JVIM 2012; 26(4): 911-9.
Shultz RM et al. JVIM 2008; 22(4): 851-9.

Check before you submit!

The specimen reception area is a hub of activity at VETPATH. This is where samples that come in via courier are sorted, bar coded, and delivered to their respective departments for testing.

Specimens submitted to the lab are sorted by trained medical scientists and technicians. Pathologists are not involved in this process and so specific instructions must be given for what tests are required. Sometimes, this is as simple as ticking a box on the submission form, however other requests may need to be specifically written on the form.

Our technicians and scientists frequently have to phone clinics when submission forms are not filled in or there are discrepancies between the form and the sample. This takes up valuable time that will delay the processing and testing of the sample. You can imagine that the time required to contact multiple clinics adds up and will result in a significant delay for all work going through the lab.

Here are some questions to ask yourself before sending samples to the lab:

1. Does the patient name on the form match the sample?
2. Does the breed match the species? For example, canine DSH are not uncommon!
3. Does the form have a test requested?
4. Is the type of culture required specified (eg aerobic, anaerobic, non-healing wound or fungal)?
5. Is site being cultured stated?
6. Is the lid on the pot or tube on tightly?
7. Are multiple submissions labelled clearly (eg pre vs post samples)?

One of the most common challenges in haematology and biochemistry is when labels are placed completely around the blood tubes. The scientist has to be able to visually determine the size of the sample. If the entire blood tube is encased by a printed label, this has to be peeled off the tube (see figure 1).

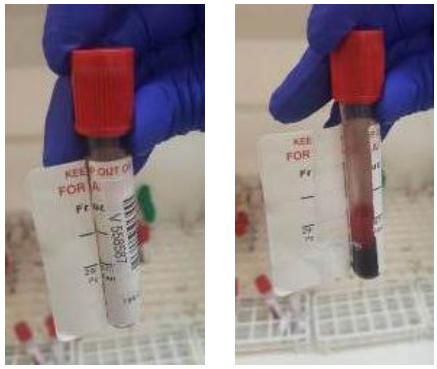


Figure 1: The tube is covered by a printed label which must be torn to visualize the sample.

It is preferable to write the name of the patient directly onto the label on the tube with a marker pen (see figure 2). This allows us to easily see how much blood is in the tube.

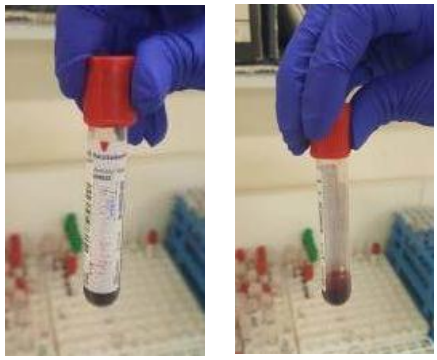


Figure 2: The tube is not covered by the label and the sample is visible.

NATA

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