November 2018 VOLUME 1 | ISSUE 3

CITYU VETERINARY DIAGNOSTIC LABORATORY

MESSAGE FROM THE DIRECTOR

Welcome to the 3rd edition of the CityU VDL newsletter. The laboratory is fully operational and continually expanding its test portfolio. If you have particular, unique, test requests please talk with our staff to see what options are available.

Welcome to our newest anatomic pathologist Dr Pui Ying TSE (May) who recently successfully achieved Diplomate status in the American College of Veterinary Pathologists. Dr Tse brings the latest knowledge in veterinary pathology to Hong Kong and will be a great asset to CityU VDL. More information on Dr Tse is included in the newsletter below.

Our Hong Kong based pathologists are now able to talk through cases in both English and Cantonese and we welcome your inquiry. We all enjoy assisting practitioners with case investigations and can be contacted by telephone or email for a free consultation.

- Dr. Fraser Hill, Anatomic Pathologist, Director of CityU VDL

IN THIS ISSUE

WHAT'S NEW AT CITYU VDL

In-clinic quality assurance programme

If you use an In-Clinic analyser you will be aware of the need for quality control (QC) of your test results to feel confident in your analyser and the service you provide to your clients. Regular QC checking allows you to build up a history of your instruments repeatability, enhancing your confidence in the instrument and alerting you when your analysers result may be drifting or servicing is required.

All instruments require daily in-house quality assessment and regular external QC assessment. Achieving an external QC check can be difficult and missed from the validation process of In-Clinic results.

CityU VDL is pleased to introduce an external In-Clinic Analyser quality assurance programme to Hong Kong veterinarians. The details of the programme will be notified to veterinary clinics over the next few weeks.

Modified Knott's Test

CityU VDL now offers a modified Knott's test for blood-borne microfilaria detection and identification. This is a concentration method to improve the sensitivity of detection on blood film examination. Submit 1 ml of whole blood in an EDTA tube. The turnaround time is 24 hours. In addition, for a complete assessment of microfilaria infection status and response to therapy, CityU VDL offers antibody and antigen ELISA testing for *D immitis* and *D repens*.

New Submission Form Available

Our new upgraded submission form is available on-line at our website now. Look out for a new range of testing options including feline anaemia panels, a dermatophytosis panel, new check box options for cytology, urine cortisol**:**creatinine ratio testing, the Baermann test, ionized calcium, serum iron, Candidatus PCR tests, taurine, cortisol, relaxin, and insulin tests.

Services and Price List

Our services and price list have been updated and are available on-line and in clinic soon. Look out for new test options including: urine cortisol to creatinine ratio, PCR panels for feline anaemia, diarrhoea and respiratory disease, canine diarrhoea and more.

TEST INFORMATION

Every Blood Smear Is Examined Individually

All blood samples received at CityU VDL for a complete blood count (CBC) are processed through the ADVIA haematology machine for a differential count in all species. In addition, every blood sample has a blood smear made, stained and examined microscopically by a veterinary pathologist. The white blood cell differential, red blood cell morphology, platelet examination and assessment of any abnormal cells are all done manually by our haematology and pathology staff and often detect changes the machine has missed.

Selecting CBC on the submission form under "Panels" ensures you get a manual assessment of the smear and cytology does not need to be selected.

Bone Marrow Examination

For bone marrow examination, cytology is undertaken. To successfully and accurately complete assessment of bone marrow cellularity and function, a whole blood sample needs to be collected at the same time as the bone marrow is collected. Submit both the bone marrow aspirates and the whole blood sample for a concurrent CBC. Include any previous in-clinic or external CBC results for the pathologists to incorporate in their workup as well. As bone marrow function is a dynamic process, a concurrent CBC provides important information and is essential for interpretation.

Potassium Bromide

Bromide for pharmaceutical use is dispensed and described as potassium bromide. It dissociates in the blood and the active agent is bromide and this is the compound tested for. Hence, while the test is actually bromide analysis, it is a measure of the therapeutic concentrations of the potassium bromide given.

Testing Tips

Use of the Blood Culture Bottles

CityU VDL uses the Signal blood culture system where the media in the bottle is specially formulated to encourage growth of ALL (aerobic, microaerophilic and anaerobic) organisms. Even though it is called a blood culture bottle, this system can be inoculated with any fluid sample. This is particularly worthwhile if the number of organisms in the original lesion is suspected to be low such as synovial fluid, or if the organism is in a harsh environment in vivo such as pus.

Using the enrichment procedure of the blood culture bottle increases the sensitivity of bacterial detection in fluids such as synovial, cerebrospinal, pleural, abdominal, pericardial, urine and of course blood. Growth of bacteria results in the production of gas which forces liquid into the upper chamber. This liquid is collected and sub-cultured for the purpose of bacterial identification and antimicrobial sensitivity testing.

How To Use:

1. Examine the bottle and check for contamination. Discard if contaminated.
2. Remove the green plastic `flip-off' cap and disinfect the exposed part of the rubber stopper.
3. Collect the fluid sample in a strictly aseptic manner.
4. Inoculate the sample into the bottle aseptically (0.5ml to 10ml of fluid)
5. Mix the fluid with the broth by gently inverting the bottle 5-10 times.
6. Transfer the inoculated bottle to the laboratory as soon as possible.

From left to right the images show the blood bottle prior to inoculation, a non-reacting bottle (middle) with no bacterial growth, and a positive reacting bottle (right) with bacterial growth forcing liquid into the top chamber.

UPGRADED WEBSITE

For all the latest test information, interesting cases and any laboratory news check our new website at https://www6.cityu.edu.hk/CityUVDL

Do you follow us on facebook? No? Copy the link below and hit LIKE to ensure you are always up to date. If yes, thanks and we hope you enjoy the information. https://www.facebook.com/HK.CityU.VDL

From time to time, new videos describing procedures will be prepared in Youtube.

Our Youtube channel is: https://www.youtube.com/channel/UCdS5WljuzsPstzaj2_3gUwA

DR. MAY TSE – AN INTRODUCTION

Dr Tse was born and grew up in Hong Kong before studying veterinary science at the University of Edinburgh. After graduation she worked at the Hong Kong Government veterinary laboratory where she developed an interest in anatomic pathology. After undertaking an anatomic pathology residency at Cornell University in conjunction with City University and successfully completing the board examinations, Dr Tse has returned to Hong Kong to join the veterinary pathology team at CityU Veterinary Diagnostic Laboratory.

Dr Tse enjoys all aspects of diagnostic pathology but has a particular interest in neoplasia and fish pathology. Dr Tse is fluent in written and spoken English, Cantonese and Mandarin. In her spare time she also enjoys swimming, hiking, reading, movies, music, museums and exhibitions, travelling and writing Chinese calligraphy. Her favorite animal is her pet cat Aslan, who flew all the way back to Hong Kong with her from the USA. She is looking forward to meeting and working with CityU VDL customers.

To contact our other pathologists:

Dr Allan Kessell

Phone direct: 3442-7421

Email: allan.kessell@cityu.edu.hk

Dr Jeanine Sandy

Phone direct: 3442-9712

Email: j.sandy@cityu.edu.hk

Dr Fraser Hill

Phone direct: 3442-6121

Email: fraser.hill@cityu.edu.hk

Dr May Tse can be contacted:

Phone direct: 3442-5447

Email: maypy.tse@cityu.edu.hk

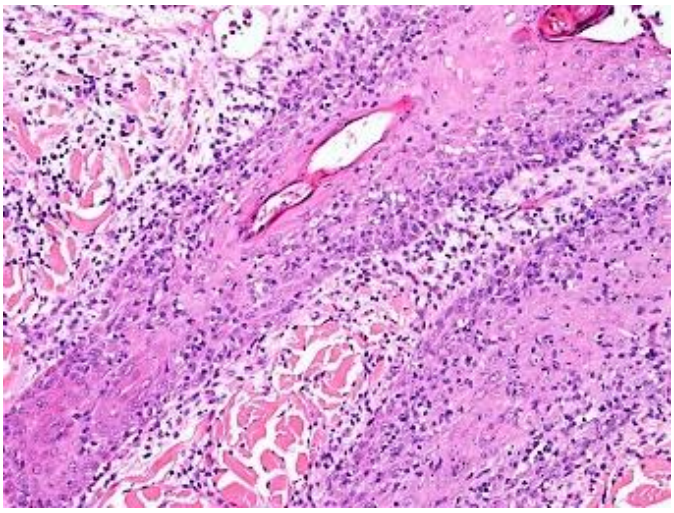
Or call the administration phone line on
3442-4849 and ask to be connected with a pathologist.

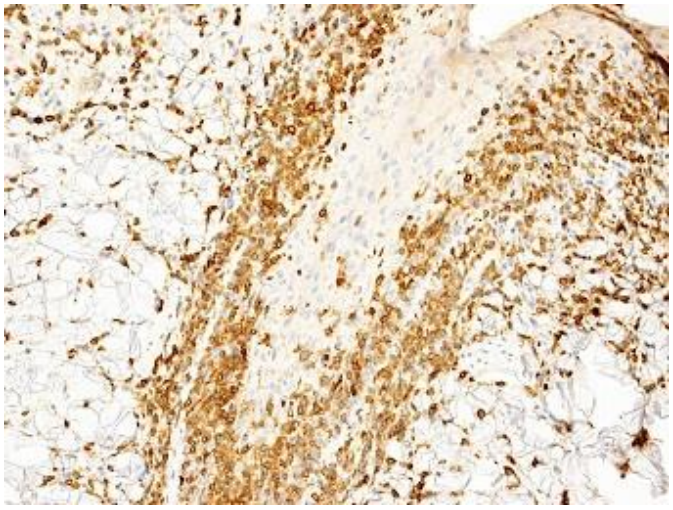
SOME RECENT CASES

Case 1

Epitheliotropic T cell lymphoma:

A nine-year-old Pug dog presented with patches of hair loss, crusting and ulceration along the dorsum, flank and chest. Skin biopsies found lymphocytes were infiltrating into the hair follicle epithelium. The first picture below shows the HE staining of the skin. The second picture shows the neoplastic T lymphocytes stained brown by the immunohistochemical stain CD3, available at CityU VDL. This confirmed a diagnosis of epitheliotropic lymphoma; an uncommon, progressive neoplastic disease affecting dogs and cats.





Case 2

Cystoisopora infections in a puppy:

A three-month-old female Pomeranian puppy was presented for veterinary examination and evaluation of bloody diarrhoea. The puppy had been recently purchased from a pet shop. Treatment with antibiotics improved the diarrhoea but it returned once the treatment finished. Two weeks later the puppy was not gaining weight despite a reasonable appetite. Examination of a faecal sample at CityU VDL found *Cystoisospora* oocysts (previously called Isospora) confirming a diagnosis of canine coccidiosis. Therapy then commenced with metronidazole and trimethoprim sulfa. The diarrhoea resolved on this treatment and the dog returned to full health. *Cystoisospora, Giardia duodenalis* and *Tritrichomonas foetus* can all be tested for at CityU VDL by direct visualisation or molecular testing of faecal samples.

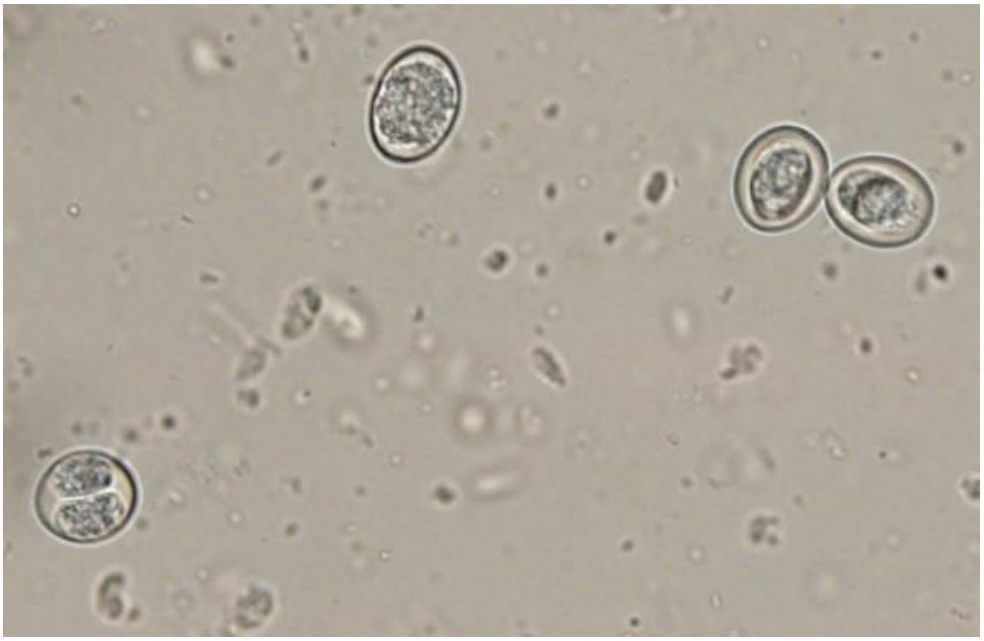


Image showing Cystoisopora cysts within a faecal flotation

Case 3

Canine leptospirosis:

Cases of leptospirosis in dogs were diagnosed by PCR at CityU VDL during the recent periods of heavy rain. For dogs presenting acutely ill with evidence of liver and renal damage, consider leptospirosis as a potential differential diagnosis.

CityU VDL can offer the following tests for diagnosis:

- a complete blood panel with full CBC (EDTA whole blood) and biochemistry (serum) screening
- PCR testing of whole EDTA blood in the acute phase
- PCR testing of urine in the chronic phase of infection and post treatment
- microscopic agglutination testing (MAT) on convalescent sera for the infective serovar (serum tube)

Leptospirosis is a zoonosis caused by one of the many pathogenic serotypes of the genus Leptospira, a spirochete transmitted by direct contact of abraded skin or mucous membranes with infected urine, and mud or water contaminated by urine of infected animals. Rodents are a common carrier of Leptospira but pigs and cattle can also be important reservoirs of infection for dogs.

If dogs are confirmed with Leptospirosis, it is important for veterinary staff and animal owners to take precautions when handling the animal and body fluids to avoid zoonotic infection. PCR testing of urine can be undertaken after treatment to confirm when the dog is no longer leptospiruric.

Contact Us

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