

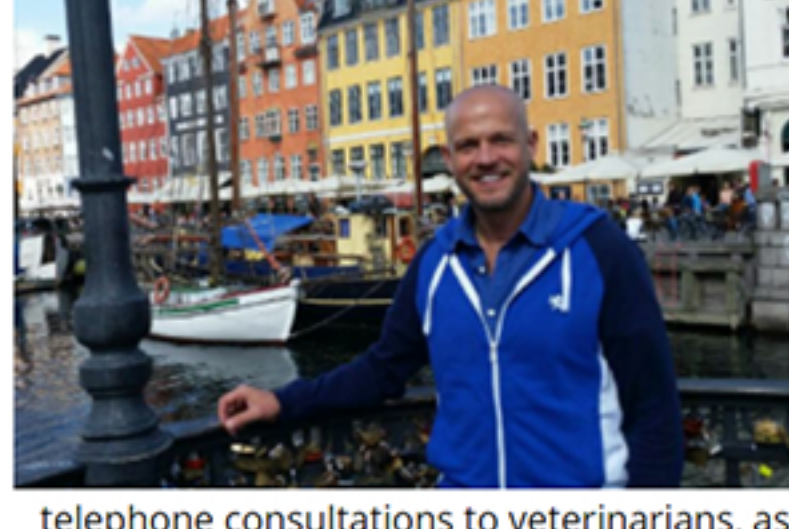


Newsletter 03/2019

We are pleased to welcome you to the monthly BattLab newsletter. This newsletter will bring you the latest news and information about our laboratory and all tests that we can offer to all our clients.

BATTLAB EVENING SEMINAR

After the success of the last year seminars, we are pleased to announce the first seminar for 2019. This time we have a special guest that is coming from the USA to talk about endocrinology.



Dr **Markus Rick** is a veterinarian of German origin currently working as an assistant professor at the endocrinology laboratory at the Diagnostic Center for Population and Animal Health (formerly known as Animal Health Diagnostic Laboratory) at Michigan State University (USA). Dr Rick is actively involved in the clinical service program of the laboratory, including providing interpretative comments on laboratory reports, providing

telephone consultations to veterinarians, assisting with the quality assurance program, and developing and validating tests and assays. He also regularly teaches veterinary students and colleagues and is therefore the most appropriate person to talk to us about hypothyroidism and hypoadrenocorticism in dogs.

Titles:

- A low T4 doesn't necessarily mean your dog is hypothyroid!
- Canine Cushing's: should you just test until the result is positive?

Date: Tuesday 26th of March 2019

Starting time: 19:15 (light refreshment) 19:45 (seminar)

For **registration** please send an email to admin@battlab.com

Limited spaces available



DERMATOLOGY CORNER - FAQs about SARCOPTIC MANGE IN DOGS

What is the typical clinical presentation for Sarcoptes infection in dogs?

Scabies is a transmissible infestation of the skin caused by the mite *Sarcoptes scabiei*, and presents with intense, non-seasonal pruritus, that is more pronounced in hairless areas, typically ears and elbows. However, with time, the condition may generalise and systemic signs (depression, weight loss, lymphadenopathy) may also occur. It may affect dogs of any age, however young dogs seem to be more susceptible to infection. Human infestation is also possible.

Which other clinical conditions can present similarly to Sarcoptes in dogs?

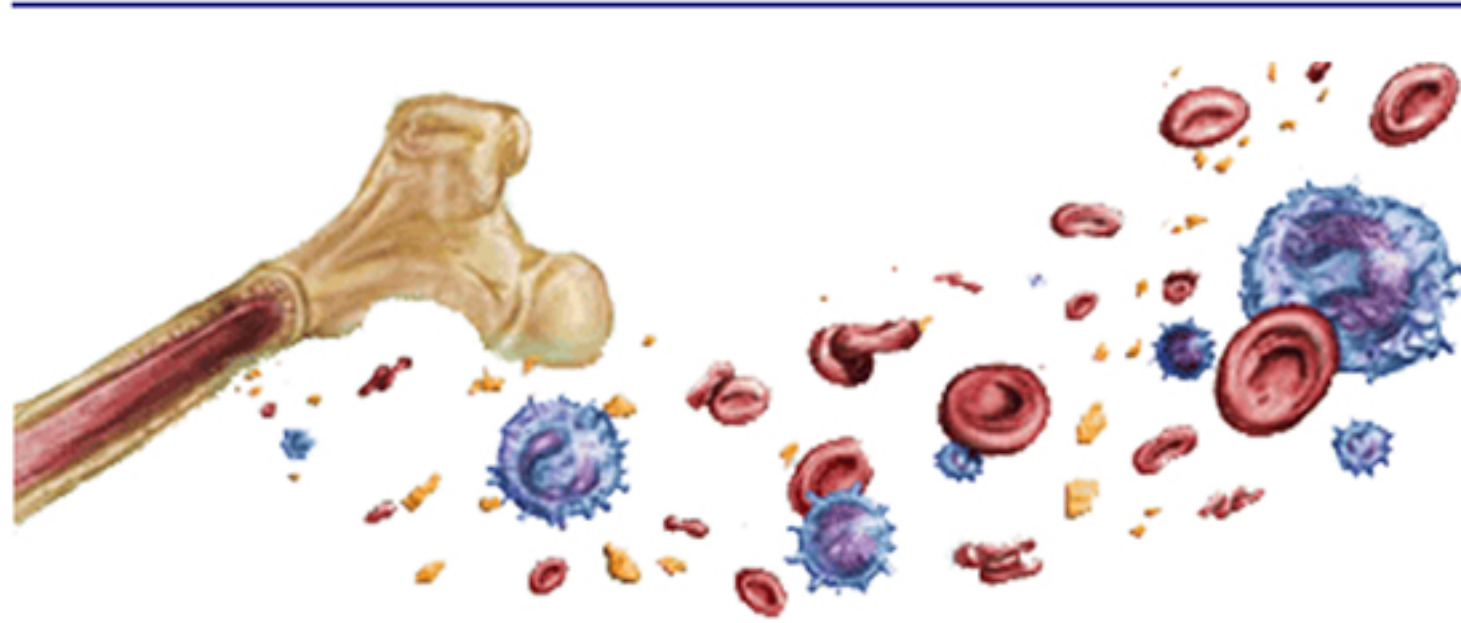
Clinical diagnosis of *Sarcoptes spp.* infection may be complicated due to overlapping clinical signs; differentials may include hypersensitivity to fleas, food and environmental allergens, pyoderma, demodicosis, dermatophytosis, Malassezia dermatitis and contact dermatitis.

Which are the tests available to achieve a diagnosis?

Diagnosis can be achieved by **cytological examination of skin scrapings**, especially from hairless areas of ears, elbows and hocks. However, false negative results are often seen. According to Lower et colleagues, mites are seen in only 20-50% of infected dogs, as the mites burrow deep into the skin and it may take only a few mites to cause significant itching. Therefore, failure to find eggs or mites does not necessarily mean that the dog does not have sarcoptic mange.

Serology testing (ELISA) is now available at BattLab, and can assist you in the diagnosis of this disease. This test aims to measure serum IgG antibodies against *Sarcoptes spp.* and has been reported as having a sensitivity of 84% and specificity of 90% (Lower et al, 2001). A false negative may occur in the first weeks of infestation, as dogs seroconvert 3 to 5 weeks after infestation. Similarly, young animals receiving corticosteroids at the time of the sample being taken may have a higher false-negative rate.

If you require any further information about this test do not hesitate to contact us.



BONE MARROW EXAMINATION - A helpful technique in diagnosing blood abnormalities

Bone marrow aspirate evaluation may not be in the clinicians' primary diagnostic toolbox, but it is essential for diagnosing many disorders. The primary indication for bone marrow aspiration is abnormal complete blood count results, especially when changes are severe and persistent and no obvious causes for these have been identified. It should be emphasised that haematological findings should always be assessed in conjunction with other clinical, biochemical or radiological abnormalities. For example, it may be unnecessary to perform a bone marrow aspirate in the presence of a poorly regenerative anaemia associated with some other primary metabolic disorders such as chronic renal failure or hypoadrenocorticism, since these are likely to be the cause for it.

The table below provides an overview of the abnormalities noted in the complete blood count and blood smear examination that should prompt examination of the bone marrow and common disorders of the bone marrow causing these abnormalities.

INDICATIONS	EXAMPLES	
Pancytopenia (deficiency of all three cellular components of the blood - red cells, white cells, and platelets).	Aplastic anaemia	Markedly reduced numbers of all haematopoietic stem cells
	Pure red cell aplasia (PRCA)	Ineffective erythroid hyperplasia, increased numbers of erythroid precursors with maturation arrest.
	Precursor directed immune-mediated anaemia - PIMA)	
	Myelodysplastic syndrome	Normocellular/hypercellular bone marrow, dysplastic changes are evident in several cell lines.
Unexplained lymphocytosis, granulocytosis, monocytosis, erythrocytosis or thrombocytosis.	Myeloproliferative and lymphoproliferative neoplasms affecting one of the blood cell lines and defined as chronic leukaemias.	Increased numbers of differentiated bone marrow cells – myeloid, lymphoid, erythroid, or megakaryocytic series.
Evidence of circulating immature lymphoid/myeloid cells	Acute lymphoid leukaemia (ALL) and myeloid leukaemia (AML)	Increased numbers of immature lymphoid cells.
Hyperproteinaemia associated with a monoclonal or polyclonal gammopathy	Multiple myeloma	Increased numbers of plasma cells.
True fever of unknown origin	Infection agents of underlying neoplasms.	Presence of infectious agents or neoplastic cells in the bone marrow.
Estimation of storage iron to assess for iron deficiency status	Iron deficiency anaemia	Minimal/no iron deposits (except for cats – they don't have stainable iron)
Staging of malignant neoplasms	Lymphoma, mast cell tumour	Assessment of presence of neoplastic cells in the bone marrow.

Below are our **top 4 recommendations to consider when performing a bone marrow aspirate:**

1. Full blood count and peripheral blood film should be submitted at the same time as the bone marrow aspirate as they are essential for a correct interpretation of the results.
2. When possible, a bone marrow biopsy should be collected at the same time as the bone marrow aspirate, as these are complementary techniques required for full and accurate interpretation of the pathophysiologic process. The advantage of bone marrow aspiration over bone marrow core biopsy is the ability to distinguish individual cellular morphology and calculating ratios, such as myeloid-to-erythroid and maturation ratios. Bone marrow core biopsies are required to evaluate overall marrow cellularity, the presence of myelofibrosis or necrosis, or of metastatic disease, which cannot be always assessed on cytology.
3. Additional unstained smears should be submitted in case special stains are needed (e.g. Prussian blue for iron, immunocytochemistry in case of a probable/confirmed neoplasia that needs to be further characterised).
4. Formalin-fixed core biopsies should be packaged separately from the cytologic specimen in order to avoid exposure to formalin fumes that may result in poor cytologic staining.

At BattLab, we offer a comprehensive cytopathology and histopathology service. For more information visit our [website](#).

Yours sincerely,
The BattLab team

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