

Diagnostic path for *Babesia* spp. infections in dogs



CLINICAL FINDINGS

Clinical history	Major clinical signs	Key clinical pathological findings																																																																								
<ul style="list-style-type: none"> → Tick infestation? → Poor ectoparasiticide compliance? → Travel to endemic area? → Dog breed <ul style="list-style-type: none"> – fighting breeds – Pit Bull terrier – Staffordshire terrier? → Recent dog bite or fight? → Stressful situations? → Poor appetite? → Other concurrent disease? 	<ul style="list-style-type: none"> → Lethargy → Weakness → Anemia (pale mucous membranes) → Fever → Icterus & bilirubinuria → Hemoglobinuria → Splenomegaly → Dehydration 	<table border="1"> <thead> <tr> <th>Hematology</th> <th>Low</th> <th>Normal</th> <th>High</th> </tr> </thead> <tbody> <tr><td>RBC</td><td>■</td><td></td><td></td></tr> <tr><td>Hemoglobin</td><td>■</td><td></td><td></td></tr> <tr><td>Hematocrit/PCV</td><td>■</td><td></td><td></td></tr> <tr><td>MCV</td><td></td><td></td><td>■</td></tr> <tr><td>Nucleated red blood cells</td><td></td><td></td><td>■</td></tr> <tr><td>Reticulocyte</td><td></td><td></td><td>■</td></tr> <tr><td>Platelets</td><td>■</td><td></td><td></td></tr> <tr><td>WBC</td><td></td><td>■</td><td>■</td></tr> <tr> <th>Biochemistry</th> <th>Low</th> <th>Normal</th> <th>High</th> </tr> <tr><td>BUN</td><td></td><td>■</td><td>■</td></tr> <tr><td>Bilirubin</td><td></td><td></td><td>■</td></tr> <tr><td>SGPT (ALT)</td><td></td><td>■</td><td>■</td></tr> <tr><td>Alk Phos</td><td></td><td>■</td><td>■</td></tr> <tr> <th>Urine</th> <th>Low</th> <th>Normal</th> <th>High</th> </tr> <tr><td>Albumin</td><td></td><td>■</td><td>■</td></tr> <tr><td>Occult blood</td><td></td><td></td><td>■</td></tr> <tr><td>Bilirubin</td><td></td><td></td><td>■</td></tr> </tbody> </table>	Hematology	Low	Normal	High	RBC	■			Hemoglobin	■			Hematocrit/PCV	■			MCV			■	Nucleated red blood cells			■	Reticulocyte			■	Platelets	■			WBC		■	■	Biochemistry	Low	Normal	High	BUN		■	■	Bilirubin			■	SGPT (ALT)		■	■	Alk Phos		■	■	Urine	Low	Normal	High	Albumin		■	■	Occult blood			■	Bilirubin			■
Hematology	Low	Normal	High																																																																							
RBC	■																																																																									
Hemoglobin	■																																																																									
Hematocrit/PCV	■																																																																									
MCV			■																																																																							
Nucleated red blood cells			■																																																																							
Reticulocyte			■																																																																							
Platelets	■																																																																									
WBC		■	■																																																																							
Biochemistry	Low	Normal	High																																																																							
BUN		■	■																																																																							
Bilirubin			■																																																																							
SGPT (ALT)		■	■																																																																							
Alk Phos		■	■																																																																							
Urine	Low	Normal	High																																																																							
Albumin		■	■																																																																							
Occult blood			■																																																																							
Bilirubin			■																																																																							

CAUTION: Consider other causes of hemolytic anemia!

FURTHER DIAGNOSTIC TESTS

Giemsa-stained blood smear microscopy (capillary or peripheral blood from ear tip); usually positive in acute phase				Serology Testing is available at some laboratories. Serology for <i>Babesia</i> spp. is sensitive but not specific and may be negative in acute infection
Large Babesia		Small Babesia		
				PCR Confirms infection and permits species identification, but not always necessary if parasites are visible in blood films
<i>Babesia canis vogeli</i>		<i>Babesia gibsonii</i>		

CAUTION: Always consider the possibility of co-infection after the diagnosis of one vector-borne disease has been made.

THERAPEUTIC CONSIDERATIONS

Large Babesia Imidocarb dipropionate	Small Babesia Azithromycin/atovaquone combination or diminazine
--	---

PREVENTATIVE MEASURES

Large Babesia Compliant year round tick control with repellent remedy	Small Babesia Avoidance of dog bites Compliant year round tick control with repellent remedy
---	---