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Laboratorio Analisis Clinicos
Av. Obregon 28-9
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Mexico

BLOOD ANALYSIS

Date/Time Received: 06/09/2014

Date Tested: 11-Jun-2014

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Service No: 99567

Patient: John Doe 3456 Center St. San Diego, CA 92019	Date of Birth: 01-01-51	Sex: Male	Health Practitioner: Dr. Sample Doctor
	Home Phone:	999-999-9999	Business Phone: 123-456-7890
	Business/Cell Phone:	123-456-789	Facsimile:

History:

Foreign Travel:	None
Symptoms:	Lyme disease
Past Infection /Treatment:	Coinfections.
Other infected in household:	Sister

Blood parasites: Normal value = 0 (not marked) Reference range: 0 (negative) - 4 (heavy presence)
Analysis of thin blood smear stained with modified Wright Giemsa Stain (Sigma Diagnostics, St. Louis, MO)

Common Parasitic Findings

2 Babesia sp.

Plasmodium sp.

Trypanosoma sp.

Wuchereria/Brugia/Loa/Onchocerca

Other:

Metabolic Dysfunctions

3 RBC crenation

RBC aggregate

2 RBC rouleau

RBC echinocyte

RBC acanthocyte

RBC macrocyte

RBC hypochromia

WBC abnormalities

Crystalline deposits

RBC Elliptocytes

Other:

Comments (samples tested at the Nogales facility):

SUMMARY OF FINDINGS

BABESIA

Babesiosis (American Malaria) is a parasitic disease caused by infection with Babesia, with over 100 species reported. Only a few have been identified as causing human infections, including *B. microti*, *B. bigemina*, *B. divergens*, *B. duncani*, and a currently un-named strain designated MO-1. In the US, Babesia infections are recognized as co-infections with Lyme disease when the tick vector is cross infected from a concurrently infected wild mammal. After trypanosomes, Babesia (American malaria) is probably the second most common blood parasite of mammals, and they can have a major impact on health of domestic animals.

Transmission: The infection is transmitted to humans by the infected bite of a tick that has fed prior on an infected wild mammal. Usual incubation period is 1 to 4 weeks. In the US, the tick vectors in the New England states are ticks of the genus *Ixodes*. Elsewhere in the country, the dog tick, *Dermacentor* spp., and the rabbit ticks, *Haemaphysalis* spp., among others, are common vectors.

Symptoms: Most infections are probably asymptomatic, as indicated by serologic surveys. When present, common symptoms include fever, chills, sweating, myalgias, fatigue, hepatosplenomegaly, and hemolytic anemia. The disease is more severe in immunosuppressed or splenectomized patients, and/or the elderly. Infections caused by *B. divergens* are more severe (frequently fatal if not appropriately treated) than those due to *B. microti*, where clinical recovery usually occurs.

Treatment:

Treatment section is reserved for Practitioners.

Prevention: Avoid exposure to the tick vectors listed above. When outside in wooded areas, stay on the trails. Avoid touching brush, trees and grass. Do not leave any skin exposed and tuck pants into socks. You can also apply repellents such as DEET. Check body for ticks after being outdoors and remove from clothing if found.

RBC CRENATION

Crenation of RBC (membrane distortion, burr cells, echinocytes, or sea urchin cells) describe RBC's with many tiny spicules (10-30) evenly distributed over cell. Crenation of RBC's indicates fragile cells, excessive free radical damage, excessive cholesterol absorption, uremia, hepatitis of the newborn, malabsorption, post-splenectomy and pyruvate kinase deficiency.

RBC ROULEAU

Rouleau (linear arrangement of RBCs, coin stack, increased fibrinogen, globulins, or paraproteins) indicates poor circulation, high proteins and/or fats, toxicity, acute and/or chronic inflammation, Waldenstrom's macroglobulinemia, multiple myeloma.