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NEWSLETTER

20th Anniversary of the FeBart[®] Test[©]

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In This Issue:

As the second decade of the 21st century closes, this 72nd issue of our Newsletter will celebrate our 20 Year Anniversary of the FeBart[®] *Bartonella* western blot test, which occurred on November 5, 2019. **We thank the thousands of veterinarians who shared their observations with us, had their clients call us for questionnaires regarding their *Bartonella* infections, and put up with our incessant faxing for more information. Without you we could not have accumulated such significant *Bartonella* findings. This is an example of the veterinary aspect of the One Health concept.**

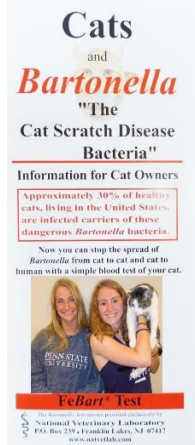
Introduction:

The National Veterinary Laboratory is the oldest private veterinary laboratory in the United States. We are a specialty veterinary diagnostic laboratory and provide tests for the feline leukemia virus (FeLV), the cat scratch disease bacteria, *Bartonella*, and the feline immunodeficiency virus (FIV). The accuracy of the FeBart[®] Test was established through testing of more than 5,000 cats over a five-year period.

The first FeBart[®] Test was submitted on November 5, 1999, by Dr. Jan Rottenberg, Just Cats Veterinary Care, Edison, NJ. Dr. Rottenberg is still our client and has submitted 1,098 *Bartonella* tests. We issued our first Newsletter in 2002, 2 years after introduction of the FeBart[®] test. We produced our brochure: Cats and *Bartonella* "The Cat Scratch Disease Bacteria" in 1999 and have distributed, at no charge, over 100,000 brochures to veterinarians.



2003



2019

The 2 young girls in the left brochure (2003) are Dr. Hardy's granddaughters Nicole and Allison

who are now all grown up and in college (updated 2019 photo on the right). Nicole and another granddaughter, Kayla, worked in our laboratory for the past 2 summers.

Personal Experience with *Bartonella*:

My daughter's family adopted a 7-month-old healthy kitten from a local shelter in New Jersey and we immediately tested "Cee Cee" for FeLV, FIV, and *Bartonella*. Cee Cee was negative for feline retroviruses but was a strong FeBart[®] Test +4 positive for *Bartonella*. Cee Cee was treated with azithromycin for 21 days and a therapy titration test, 6 months after the end of therapy, showed an 8-fold titer reduction indicating elimination of *Bartonella* infection. Approximately 3 months after the completion of Cee Cee's therapy, Nicole woke up one morning with a scratch across her nose. My daughter realized that Nicole would often awake with Cee Cee comfortably sharing her bed and thus she concluded that the scratch occurred when Nicole inadvertently rolled onto Cee Cee at night and the kitten scratched her.



Scratch on Nicole's nose



Nicole and Cee Cee

Nicole's scratch healed and she did not develop cat scratch disease or any other *Bartonella* syndrome. Cee Cee was retested, by our screening test in 2013, 11 years after her first test and therapy, and tested +1, not infected.

How We Started:

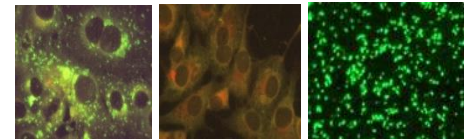
While researching feline and human retroviruses at Memorial Sloan Kettering Cancer Center (MSKCC) and Albert Einstein School of Medicine in the early 1990s, we collaborated with clinicians caring for AIDS patients who began to appear with *Bartonella* diseases. At that time, *Bartonella henselae* had just been discovered from an HIV-infected patient by Dr. Jane Koehler and colleagues and was linked to transmission from cats. Having a serum bank of thousands of cat samples from our previous research into the feline leukemia virus (FeLV), we initiated work to develop an accurate test for *Bartonella* that we could use to study the prevalence of *B. henselae* in pet cats in order to prevent the zoonotic spread of *Bartonella* from pet cats. We obtained a reference isolate of *Bartonella* from the

generosity of Dr. David Welch, U. Oklahoma, to use as a prototype until Evelyn Zuckerman was able to culture our own *Bartonella* isolate. The species name of *B. henselae* was derived from Dr. Welch's technician, Diane Hensel.

Development of the FeBart[®] Test:

We worked on developing the most accurate serological test for *Bartonella* for 5 years using samples in our serum bank from MSKCC and fresh samples from the Oradell Animal Hospital, in New Jersey with veterinary technician Jan Corbishley. We developed ELISA, IFA and western blot (WB) tests and found the WB was the least subjective, most reproducible and most accurate. We named our WB test the FeBart[®] Test.

IFA *Bartonella* Test



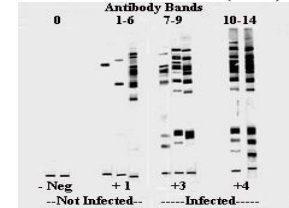
The IFA *Bartonella* test developed in our laboratory was not as accurate, or as reproducible, as our western blot test for detecting *Bartonella* infected cats. Left panel: antibody-positive in infected cells. Middle panel: antibody-negative. Right panel: positive isolated *Bartonella* bacteria.

ELISA *Bartonella* Test



Bartonella ELISA test developed in our laboratory was the least accurate and reproducible of all the assays.

FeBart[®] Western Blot (WB) Test



Grading system for the FeBart[®] Western Blot Test. - & +1: not infected, and +3 & +4: infected.

Bartonella Test Data:

We did a total of 407,249 *Bartonella* tests, 395,573 cats, 11,627 dogs and 49 tests of various other species. We will not present the specific data as we plan to submit our results for publication. In summary, *Bartonella* prevalence was greatest in cats and dogs living in warm and humid climates, especially if they were strays or were obtained from shelters. **The most likely cats to transmit *Bartonella* to people are HEALTHY kittens, under 1 year of age, who originate as strays or from shelters.**

National Veterinary Laboratory Newsletters Available on our website: www.natvetlab.com

Bartonella topics are in the titles of our Newsletters:

Feline <i>Bartonella</i> Incidence: Reasons to Test All Cats for <i>Bartonella</i>	Winter 2002	Vol. 1, Number 1
<i>Bartonella</i> and Public Health: Reasons to Test ALL Cats for <i>Bartonella</i>	Spring 2002	Vol. 1, Number 2
Clinical Practice & <i>Bartonella</i> Testing: Experience from Practitioners in NC & MA	Summer 2002	Vol. 1, Number 3
<u>Feline Leukemia Virus- FeLV</u>	Fall 2002	Vol. 1, Number 4
<i>Bartonella</i> in Kittens and <i>Bartonella</i> Therapy Evaluation	Winter 2003	Vol. 2, Number 1
<i>Bartonella</i> Diseases in Veterinarians, Their Families, Employees, and Their Cat Owner Clients	Spring 2003	Vol. 2, Number 2
Feline <i>Bartonella</i> Diseases: Pathogenesis and Description	Summer 2003	Vol. 2, Number 3
<i>Bartonella</i> and Skin Diseases	Fall 2003	Vol. 2, Number 4
Feline <i>Bartonella</i> Test Results and More Public Health Implications	Winter 2004	Vol. 3, Number 1
<i>Bartonella</i> : What is the Veterinarian's Legal Responsibility?	Spring 2004	Vol. 3, Number 2
Commonly Asked <i>Bartonella</i> Questions	Summer 2004	Vol. 3, Number 3
4 th International <i>Bartonella</i> Conference- Part 1	Fall 2004	Vol. 3, Number 4
4 th International <i>Bartonella</i> Meeting- Part 2	Winter 2005	Vol. 4, Number 1
<i>Bartonella</i> : Quick Reference Sheet	Spring 2005	Vol. 4, Number 2
The Controversy Regarding Feline <i>Bartonella</i> Pathogenicity in Cats	Summer 2005	Vol. 4, Number 3
<u>Interpreting the FeBart[®] <i>Bartonella</i> Test Results</u>	Fall 2005	Vol. 4, Number 4
Feline <i>Bartonella</i> : Public Health Implications: Lessons Learned- Case Histories	Winter 2006	Vol. 5, Number 1
The Eyes Have It: <i>Bartonella</i> Tropism	Spring 2006	Vol. 5, Number 2
Feline <i>Bartonella</i> Have Some Nerve! Neurologic Diseases Caused by Feline <i>Bartonella</i>	Summer 2006	Vol. 5, Number 3
<u>Current FeLV Research Supports: Confirm All In-Hospital FeLV ELISA + Tests by IFA</u>	Fall 2006	Vol. 5, Number 4
Healthy Cats and <i>Bartonella</i> : <i>Bartonella</i> are More Important than FeLV and FIV	Winter 2007	Vol. 6, Number 1
5 th International Conference on <i>Bartonella</i> as Emerging Pathogens	Spring 2007	Vol. 6, Number 2
Dogs and <i>Bartonella</i>	Summer 2007	Vol. 6, Number 3
8 th Anniversary of the FeBart [®] Test	Fall 2007	Vol. 6, Number 4
Recent <i>Bartonella</i> Publications:	Winter 2008	Vol. 7, Number 1
Have a Heart or Broken Heart: <i>Bartonella</i> and Cardiovascular Diseases	Spring 2008	Vol. 7, Number 2
Therapy of <i>Bartonella</i> Infection and Disease	Summer 2008	Vol. 7, Number 3
<u>Kids, Kittens, and <i>Bartonella</i></u>	Fall 2008	Vol. 7, Number 4
What's On Your Plate---lets? <i>Bartonella</i> ?	Winter 2009	Vol. 8, Number 1
The Feline Immunodeficiency Virus (FIV): The FIV Test Patent Has Expired	Spring 2009	Vol. 8, Number 2
What is the Best Test for Detection of <i>Bartonella</i> Infection?	Summer 2009	Vol. 8, Number 3
<u>6th International Conference on <i>Bartonella</i> as Medical & Veterinary Pathogens</u>	Fall 2009	Vol. 8, Number 4
Do <i>Bartonella</i> Cause Disease in Cats? I. Experimental Support	Winter 2010	Vol. 9, Number 1
Do <i>Bartonella</i> Cause Disease in Cats? II. Evidence from Pet Cats	Spring 2010	Vol. 9, Number 2
One Medicine, One Health and Us	Summer 2010	Vol. 9, Number 3
<i>Bartonellosis</i> : Cat Scratch Disease and Sequelae	Fall 2010	Vol. 9, Number 4
Science's Major Accomplishments of the First Decade of the 21 st Century	Winter 2011	Vol. 10, Number 1
Healthy Cats: To Test or Not to Test? That is the Question	Spring 2011	Vol. 10, Number 2
1 st International One Health Congress	Summer 2011	Vol. 10, Number 3
<i>Bartonella</i> Induced Oral Inflammatory Diseases of Cats	Fall 2011	Vol. 10, Number 4
Honoring People Who Made a Difference: 2011 was a Year of Great Loss	Winter 2012	Vol. 11, Number 1
7 th International Conference on <i>Bartonella</i> as Animal and Human Pathogens	Spring 2012	Vol. 11, Number 2
The History of <i>Bartonella</i> : From Antiquity to the Present	Summer 2012	Vol. 11, Number 3
<i>Bartonella</i> and Pregnancy	Fall 2012	Vol. 11, Number 4
<i>Bartonella</i> Screening and Therapy Evaluation Tests	Winter 2013	Vol. 12, Number 1
Let's Get Serious About <i>Bartonella</i> !	Spring 2013	Vol. 12, Number 2
The Common Feline Pathogens of African Wild Cats	Summer 2013	Vol. 12, Number 3
<i>Bartonella</i> and Your Immunocompromised Clients	Fall 2013	Vol. 12, Number 4
Goodhearted Veterinarians and <i>Bartonella</i>	Winter 2014	Vol. 13, Number 1
Veterinarian's Questions about <i>Bartonella</i> !	Spring 2014	Vol. 13, Number 2
Breathe Easier- Without <i>Bartonella</i>	Summer 2014	Vol. 13, Number 3
<u>Out of Africa: Pathogens and Pandemics</u>	Fall 2014	Vol. 13, Number 4
<i>Bartonella</i> Transmission: Reservoirs and Vectors	Winter 2015	Vol. 14, Number 1
<i>Bartonella</i> Association with Autoimmune Diseases	Spring 2015	Vol. 14, Number 2
The Human <i>Bartonella</i> Paradigm Has Changed	Summer 2015	Vol. 14, Number 3
<u>The FeBart[®] (<i>Bartonella</i>) Test is Sweet 16</u>	Fall 2015	Vol. 14, Number 4
Diagnostic Tests for "The 3" Common Feline Pathogens	Winter 2016	Vol. 15, Number 1
<i>Bartonella</i> is not a "Lily-Livered" Pathogen	Spring 2016	Vol. 15, Number 2
<i>Bartonella</i> : That Gut Feeling	Summer 2016	Vol. 15, Number 3
<u>India/Nepal and Kathmandu ("Cat Man Do")</u>	Fall 2016	Vol. 15, Number 4
Feral/Stray Cats, Shelters and Multiple Cat Households	Winter 2017	Vol. 16, Number 1
Honoring Those We Have Lost	Spring 2017	Vol. 16, Number 2
<i>Bartonella</i> Human Diseases- What If	Summer 2017	Vol. 16, Number 3
8 th International <i>Bartonella</i> Meeting, Beijing, China	Fall 2017	Vol. 16, Number 4
The One Health Initiative: Our Experience	Winter 2018	Vol. 17, Number 1
Literature Review: 3 Common Cat Pathogens	Spring 2018	Vol. 17, Number 2
<i>Bartonella</i> and the Musculoskeletal System: Where is the Cat?	Summer 2018	Vol. 17, Number 3
<u>Myron "Max" Essex, DVM, PhD Celebration</u>	Fall 2018	Vol. 17, Number 4
Tribute to Veterinary Technician: Jan Corbishley	Winter 2019	Vol. 18, Number 1
Literature Review: A Scientific Potpourri	Spring 2019	Vol. 18, Number 2
Donald Armstrong, MD: A Pioneer in Infectious Diseases	Summer 2019	Vol. 18, Number 3
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