

The Life and Death of *Anaplasma*

[Announcer] This program is presented by the Centers for Disease Control and Prevention.

[Dr. Setu Vora] “The Life and Death of *Anaplasma*”

This is the dark saga of *Anaplasma phagocytophilum*

That lurks inside white-footed mice and white-tailed deer.

Ferried by blood-thirsty ticks in the sticks,

This *Anaplasma* soul is passed on to its bodily incarnations—

Larva to nymph to tick.

A new generation of infected vampires is born.

Our love for the outdoors encroaches on tick territory.

A tick bite injects *Anaplasma* storming defender neutrophils,

Using MSP2 hooks to scale the walls.

Zombie neutrophils forget to defend—the aliens multiply into a morula.

Natural killer cells spew Interferon- γ to inflame the fire

That reaches a feverish frenzy of cell death.

Now, whether the man lives or dies, it is the end of the road for *Anaplasma*.

It has reached Moksha, liberation from the cycles of death and rebirth.

[Ted Pectorius] Hello, I’m Ted Pectorius, and I’m talking today via the telephone with Dr. Setu Vora. Dr. Vora is the medical director of critical care and physician director of performance improvement at Backus Hospital in Norwich, Connecticut. And you just heard Dr. Vora read his poem “The Life and Death of *Anaplasma*,” which appears in CDC's journal, *Emerging Infectious Diseases*. Welcome, Dr. Vora.

[Dr. Vora] Thank you very much for having me on the show, Ted.

[Ted Pectorius] Oh, you’re very welcome. That’s a very vivid, and, might I say, alarming poem. What exactly is *Anaplasma phagocytophilum*?

[Dr. Vora] Ted, it’s a less common bacteria, which is in the category of what we call Gram-negative bacteria, and it is kind of rather unique because it likes to stay inside a cell and infect the defender cells, which are the neutrophils. It kind of subverts the system of neutrophils and takes it over and prevents it from dying and just multiplies. So it’s a rather intriguing unique organism.

[Ted Pectorius] And is it only found in ticks?

[Dr. Vora] Actually, Ted, it’s not found so much in ticks, but the ticks are the vectors that transmit this organism from different hosts.

[Ted Pectorius] And is there a specific territory?

[Dr. Vora] Yes. It is most often spread, as you mentioned, through tick bites and the hot zone of tick-borne diseases is up where I live – Northeast; also in the upper Midwest and northern California. However, that seems to be slowly increasing over time.

[Ted Pestorius] So what made you decide to write a poem about *Anaplasma*?

[Dr. Vora] You know, I trained in New York City. I came up to Connecticut, and just a few years back I had a patient, a 75-year-old lady, who was in the intensive care unit because she presented with severe fevers, body ache, headaches, and she ended up requiring life support because of multiple organ failure. We diagnosed her to have a double infection of Lyme disease and anaplasmosis. So it made me, you know, look deeper into it. I knew more about Lyme and less about *Anaplasma*. So I looked at the biology of this organism and found it to be fascinating.

[Ted Pestorius] Have you written other poems about other finds?

[Dr. Vora] I have, and actually they have been published before in the *EID*, the *Emerging Infectious Diseases*, on the threat of spores. I've written a poem about the terminal lung cancer and patient's choice, which was published in the *Archives of Internal Medicine*. It's called "Room 15." And a few more. I have a couple in the pipeline right now. Again, I try to find links that are not so obvious and that incite the medical humanity side of it. That's more fun.

[Ted Pestorius] Thank you very much. We appreciate this very much, Dr. Vora.

[Dr. Vora] Thank you again for having me.

[Ted Pestorius] I've been talking with Dr. Setu Vora about his poem "The Life and Death of *Anaplasma*," which appears in the December 2011 issue of CDC's journal *Emerging Infectious Diseases*. You can see the entire article online at www.cdc.gov/eid.

If you'd like to comment on this podcast, please send an email to eideditor@cdc.gov. That's e-i-d-editor – one word – at c-d-c-dot-gov.

For *Emerging Infectious Diseases*, I'm Ted Pestorius.

[Announcer] For the most accurate health information, visit www.cdc.gov or call 1-800-CDC-INFO.