A Breakthrough for Lyme Disease Sufferers

As carefree picnickers and backpackers innocently pursued their leisure this summer, deer ticks hauling bigger weapons than Lyme Disease awaited them.

New research has faulted deer ticks for a host of other ailments that do not respond to penicillin. The research has taken shape after a controversy regarding Lyme Disease has raged for more than a decade.

Enter Dr. Eva Sapi, a professor of cellular and molecular biology at the University. Before Dr. Sapi's brain swelled after she was bitten by a deer tick, she was researching cancer cures. But once she showed all the symptoms of Lyme Disease, including trouble walking, she went in for testing and came out baffled. Her Lyme Disease test was negative.

"Researchers don't even know what Lyme Disease is," she says. "I realized that somebody had to go back and test the ticks."

Who better than Dr. Sapi? A noted researcher and former Yale post doctoral/operative fellow in therapeutic radiology, Dr. Sapi quickly tripped on some ground-breaking research: she discovered that deer ticks could be infected with mycoplasma, a rogue life form. The tick passes the mycoplasma onto the human, resulting in all kinds of chaos.

Dr. Sapi works on her research

Dr. Eva Sapi's personal struggle fuels her quest for answers

Once Dr. Sapi began looking, she found other pathogens living in deer ticks.

Such chaos occurring in patients who test negative for Lyme Disease, including a herd of doubting physicians she had consulted for her own illness, moved Dr. Sapi to help. "I have been to so many doctors who laughed at me," she said.

A mix of determination and humor keeps her Dodds Hall lab humming with graduate student researchers. Split into teams charged with various missions, Raghavender Kukunoor, Pushpa Durgesh Rao, Sumyuktha Komarigiri, Sonali Solanki, all of India, and Kristin Bovat of Watertown, worked with Dr. Sapi this summer. Assistant Professor Saion Sinha of the Physics Department joined them in an attempt to use nanotechnology to create a new, more accurate detection test. As it stands now, the best test for Lyme Disease still offers a seventy percent false negative rate.

"If you know a person has mycoplasma, you can treat it," Dr. Sapi says. She cited a small New Jersey study of seven patients with Lyme symptoms who tested negative for Lyme Disease. But when the physician handling the cases tested for mycoplasma, all seven patients tested positive. Once treated, they all showed signs of improvement.

Dr. Sapi presented research on mycoplasma at the national Lyme Disease conference at the University of New Haven in May, and has submitted a paper on the topic to the *Journal of Medical Entomology*. She has also been seeing a naturopathic doctor in the Hartford area, whose treatment seems to be working. Not one to overlook any part of the puzzle, "I need my brain," she says. ◆