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Bacteria and cancer: an interview with Dr. Alan Cantwell

Posted By Amy Proal On September 11, 2007 @ 9:55 pm In conferences and trainings,familial aggregation,featured articles |

Dr. Alan Cantwell has investigated the phenomenon of cancer bacteria for over thirty years. A graduate of New York Medical College, Cantwell completed a residency program in dermatology at Long Beach Veteran's Administration Hospital in Long Beach, CA and then practiced in the dermatology department of Kaiser-Permanente in Hollywood, California, from 1965 until his retirement in 1994. Dr. Cantwell is the author of more than thirty published papers on breast cancer, lymphoma, Kaposi's sarcoma, Hodgkin's Disease, lupus, scleroderma, AIDS, and other immunological diseases. These papers have appeared in many peer-reviewed journals, including Growth, International Journal of Dermatology, Journal of Dermatologic Surgery and Oncology, and the Archives of Dermatology. He has also written The Cancer Microbe and Four Women Against Cancer and several books on AIDS.

1. How did you become interested in looking for bacteria, first in diseases like scleroderma and later in cancer?

It all started when I was a second year resident in dermatology. I was in the medical library and I came across a paper in the Southern Medical Journal describing a group of people who had been given allergy injections and who subsequently developed deep skin infection with tuberculosis-like germs. It was thought the allergy injection bottles were contaminated with these bacteria.

At the time, I had a mentally disturbed patient who had been given multiple injections of medications into her buttocks. She later developed deep painful skin nodules in the same areas. No one knew what was causing these nodules that were diagnosed as "panniculitis," an inflammation of the fat layers of the skin. I thought, "Let's culture a skin biopsy from one of these deep nodules and see if I can find any TB-like germs." I was amazed when Eugenia Craggs, the technician at the TB lab, reported that "acid-fast" bacteria were discovered in the skin tissue. I thought "Hey this is just like the article!"

We also had three other patients with "panniculitis" of the fatty portion of the skin, all of unknown cause. I took biopsy samples and TB-like bacteria were found in all four. These cases were later reported in the Archives of Dermatology in 1966. At the time my dermatology professor was J. Walter Wilson, who was also a world famous mycologist, an expert in fungal diseases. He was somewhat skeptical about my findings of acid-fast bacteria in all these four patients and he suggested I use a scleroderma patient as a "control." Scleroderma is a so-called "collagen disease" where the skin becomes hardened. The disease can affect the internal organs and is sometimes fatal. The cause is unknown, and bacteria were never thought to cause this disease. Dr. Wilson said I should check a scleroderma skin biopsy because that would serve as a negative "control" case. I was astonished when Eugenia Craggs called me from the TB lab and told me the skin tissue grindings of the scleroderma sample were positive for acid-fast bacteria, the kind of bacteria found in tuberculosis. She would try and grow the germ in a TB

culture. After much searching I was also able to find a few acid-fast rod forms of bacteria in the scleroderma skin biopsy microscopic sections prepared by the pathologist.

he scleroderma bacterial took a long time to grow and could not be diagnosed as a TB germ or other definite “atypical” mycobacteria. The microbe was highly pleomorphic (various forms). There were round staphylococccal forms, as well as typical acid-fast rod forms. Eventually this isolate became fungal-like and “actinomycete- like.” Despite expert opinion, it was impossible to classify the microbe into a specific species. This case of scleroderma was reported in The Archives of Dermatology in 1966.

Some time later, Roy Averill, one of the dermatology residents, told me he heard a woman physician being interviewed on a San Diego radio talk show. She was explaining how she found TB-like bacteria in scleroderma in the late 1940s. That woman was Virginia Livingston M.D. She quickly became a dear friend and mentor in my scleroderma research. She told me that scientists at the Pasteur Institute in Belgium also reported finding acid-fast bacteria in scleroderma in 1953, thus confirming her own research.

I naturally thought all these reports in the medical journals would be recognized by other dermatologists and scientists, and that scleroderma would be recognized as an infectious disease caused by acid-fast bacteria. But after more than a half-century, I’m sad to say that scleroderma is still considered a disease “of unknown etiology” and the bacteria we found are simply ignored. After discovering acid-fast bacteria in scleroderma, Livingston found similar bacteria in cancer. This made her one of the most controversial physicians in America, as detailed in my book, “The Cancer Microbe.”

2. How did you identify the bacteria in your samples?

I began my dermatology practice at Kaiser in Hollywood in 1965. Virginia Livingston introduced me to Dan Kelso, a Los Angeles microbiologist who thereafter cultured my skin biopsy samples from scleroderma, and later from lupus erythematosus and a variety of cancers. Depending on the case, sometimes he cultured Staphylococcus epidermidis, or corynebacteria, more rarely streptococci, and pleomorphic bacteria that appeared sporadically as acid-fast bacteria similar to Mycobacterium tuberculosis.

Naturally I attempted to find acid-fast rod forms in my specially-stained skin biopsy sections, because these forms are the typical forms signifying infection with Mycobacterium tuberculosis or other species of mycobacteria. “Acid-fast” refers to red-stained mycobacteria that can be observed after staining tissue samples with a special procedure and a special dye. At first, I didn’t see the L-form bacteria since they react differently to acid staining. Instead of rod-forms, they appeared as round forms which were only partially acid-fast, staining purple or magenta with the acid-fast stain. It took me many years to finally realize that these partially acid-fast and round forms were bona fide growth forms of mycobacteria. The typical bright red-stained acid-fast rod forms of mycobacteria are unique and easily recognized by pathologists, but unfortunately the non-acid-fast round forms are not recognized and accepted by pathologists. For a long time I passed over these granular and “dusty” tiny forms as meaningless, not realizing that they were, in actuality, what L-forms look like!

I knew basically nothing about the microscopic appearance of L-form bacteria (also known as cell wall deficient bacteria and "mycoplasma") until I carefully read the published papers of microbiologist Lida Mattman. Then I realized all the guises that bacteria can undergo, including transformation into "large bodies." At that point, I went back and looked at my first case of scleroderma and realized that one skin biopsy sample contained large L-form bodies that appeared as yeast and fungal-like forms! These forms, in 1966, were dismissed as "fat degeneration" by one pathologist; and the biologist thought they looked like yeast cells.

These large L-forms are compatible with what pathologists recognize as Russell Bodies. William Russell (1852-1940) was a well-known Scottish pathologist who first discovered "the parasite of cancer" in 1890. His view of an infectious agent in cancer was dismissed in the early part of the twentieth century. However, I believe Russell bodies are actually large growth forms of cell wall deficient bacteria — and that Russell was indeed recognizing an infectious agent in cancer. More than a half-century later, Lida Mattman was able to transform mycobacteria into "large bodies" by exposing them to antibiotics. For more information on Russell and pictures of Russell bodies, Google my paper "The Russell Body" in the Journal of Independent Medical Research (joimr.org).

The fact that L-form bacteria have a "life cycle" and can appear in so many different shapes and sizes (pleomorphism) may be why they are so hard to eradicate and why the immune system cannot cope with them. Maybe the large Russell bodies are harder to kill. Or maybe they are easier to kill. I don't know.

3. You found bacteria in the tissues of people who died of certain cancers and AIDS and scleroderma at autopsy. What gave you the idea to look for bacteria in autopsies?

I got that idea from Florence Seibert, a world famous biochemist who developed the tuberculin skin test for tuberculosis, which is still used worldwide. When Seibert heard about the TB-like bacteria discovered in cancer by Virginia Livingston and her colleagues, which included microbiologist Eleanor Alexander-Jackson and cell cytologist Irene Diller, she decided to come out of retirement and help with the women's cancer research. Seibert advised me to search for bacteria in autopsy specimens and to determine if I could also find them in the internal organs and connective tissue of people who died of scleroderma. She believed this would make my skin research more credible. For the full story of these four remarkable women scientists, read my book Four Women Against Cancer, published in 2005, and available through Internet book sources.

- Alan Cantwell with Eleanor Alexander-Jackson and Irene Corey Diller

After I decided to look for bacteria in autopsy material, I contacted colleagues in the Pathology department at Kaiser and asked them to provide me with stored tissue autopsy samples, which they did graciously. I was very fortunate to have them assist me in doing this. One of the great things about Kaiser-Permanente is that everything is under one roof. Few private dermatologists would have the easy access to autopsy material that I did at Kaiser.

4. When did you begin to look for bacteria in people with cancer?

Never in my wildest dreams did I think I would ever find bacteria in patients with cancer. Before I started my cancer research (which was totally instigated by my friendship with Livingston), it seemed inconceivable that scientists could have failed to recognize a microscopically visible infectious bacterial agent in cancer.

For a decade I avoided the cancer controversy because I worked for an HMO and I didn't want to be regarded as a "quack." Tragically, Virginia Livingston, because of her outspokenness that cancer was caused by bacteria, was widely regarded as a "quack doctor." However, in the mid-1970s, I found pleomorphic bacteria in patients with sarcoidosis, and also in a patient with lymphoma. I was amazed at how easy it was to detect bacteria in sarcoidosis and lymphoma when the tissue sections were properly stained with an acid-fast staining technique.

Once I saw for myself that Virginia Livingston was correct about acid-fast bacteria in cancer, I became very enthusiastic about studying bacteria in other forms of cancer, as well as in immune diseases, like lupus. At that point, I finally had enough conviction in my findings, and had the courage to take a stand along with Virginia.

5. How did you colleagues react to your research?

Over the years there were very few doctors interested in seeing the bacteria I found in tissue sections. Some would tentatively acknowledge that there were bacteria present. Most were non-committal. With a little arm twisting I convinced several pathologists, who helped supply the autopsy specimens, to put their name on my published papers. But for the most part they didn't want to get involved. They would say, "Oh Alan, it's your research…" "Oh Alan, you'll win the Nobel Prize someday." Nobody ever wanted to sit down with me and seriously look at the material. I think it's because finding bacteria in illnesses that are not attributed to infection is highly controversial, and most doctors shy away from controversy. The finding of bacteria in cancer is like opening Pandora's Box. Once it's open, a lot of stuff flies out, and pisses off a lot of people. The bacteria aren't supposed to be there, they are in closet and not supposed to come out.

Even after I was retired for almost a decade, I never lost interest in trying to uncover bacteria in cancer. In 2003, my partner was diagnosed with prostate cancer. He underwent a prostatectomy, the total removal of the prostate gland. I decided to see if bacteria could be found in his prostate cancer tissue sections after surgery. Prostate cancer is every older man's worst nightmare, just as breast cancer is every woman's worst nightmare. I asked the Kaiser pathologist to cut me a section of my partner's cancerous prostate and to stain it with an acid-fast stain so that I could study it. Sure enough, there were bacteria in the samples. I had a private microscopist photograph the bacteria. One can view the bacteria in prostate cancer I discovered by reading my paper published at the www.joimr.org website.

6. What's going on? Why aren't doctors and researchers taking the idea that bacteria cause cancer seriously?

As I see it, the identification of simple-to-see cancer microbes would cause havoc in the scientific world and in the cancer treatment industry. It would be the biggest embarrassment to befall modern

medicine. Can you imagine the furor resurrecting Russell's "cancer parasite" — the "parasite" that was thrown out of medical science a century ago?

It is rare to find a scientist interested in "cancer microbes." Most physicians are repelled by the idea that bacteria cause cancer. How do you prod scientists to become interested? I'm still not sure.

A century ago, doctors stopped looking for bacteria in cancer. It's weird because around that time major diseases like syphilis, tuberculosis, and leprosy were proved to be caused by bacteria. I suppose researchers think, "Well, we looked for bacteria 100 years ago, so there's no need to look for them now." But a lot has changed in bacteriology in 100 years. A century ago there was no such thing as an "L-form." Even now most scientists don't realize that regular bacteria can change into L-form bacteria, or cell wall bacteria, or mycoplasma, or pleomorphic bacteria, or nanobacteria, or whatever you choose to call these peculiar and little-known growth forms.

Microbiologists still have a hard time dealing with the fact that bacteria can change so widely in shape and size. How do you get scientists to understand that the tiniest L-forms have the potential to enlarge into a form the size of a red blood cell (or even bigger!). But if you think about it, all human beings were once a microscopic bunch of dividing cells, hardly visible to the naked eye. And we know that these tiny cells can evolve into seven foot tall basketball players. Why then, do we take such a simple view of what bacteria are supposed to do and what they are supposed to look like?

And the strange part is that using a light microscope you can easily see L-form bacteria. Every scientific paper that I have had published shows pictures of these bacteria. But even when doctors are shown photographs or see these bacteria via a light microscope, they still have a hard time accepting them. It's bizarre because doctors believe viruses exist, even though most have never seen one. You can't see viruses. They are too small to be seen with a microscope.

7. When doctors and researchers claim that there are no bacteria in your samples what explanations do they give?

When doctors or other researchers try to deny that there are bacteria in scleroderma and cancerous samples their explanations are pretty lame. Maybe something like, "Those aren't bacteria, those are enlarged red blood cells." Those "bacteria" are really cell debris, or stain material, or nuclear dust, of mast cell granules, or fat granules— anything but true bacteria. It's impossible to convince a pathologist, for example, that a "tiny" bacteria can transform into a giant-sized form hundreds of times larger.

8. Who's to blame for the fact that bacteria have not been recognized as part of the pathogenesis of cancer?

Pathologists, dermatologists, infectious disease specialists, oncologists, virologists, microbiologists, and basically all medical scientists who have ignored a century of cancer research pointing to cancer microbes. They have collectively let us down. Unfortunately, pathologists and microbiologists seem to be on two different planets. Pathologists pay little attention to germs in a laboratory, and

microbiologists pay little attention to what bacteria do when they infect human tissues that are subsequently examined by pathologists.

9. What keeps other researchers from finding L-form bacteria in patients with cancer?

Unfortunately, most microbiologists who have worked with L-form bacteria have not demonstrated how these same forms appear in tissue in human disease when viewed in the light microscope. It's one thing to describe a microbe in a lab, but what does it look like when it infects the human body? It's one thing to show these L-forms in pictures taken with an electron microscope that magnifies objects thousands of times. But what do these bacteria look like when view with a "regular" light microscope that magnifies only 1,000 times? As a result, these pleomorphic forms go undetected in diseased tissue. Another reason, of course, is that the pathologist uses a routine stain (the H&E stain) that does not detect these forms. One needs to use an acid-fast stain. This was one of Livingston's and Eleanor Alexander-Jackson's most brilliant discovery— the idea that the "cancer microbe" is intermittently "acid-fast" at one or more stages of its growth.

10. What are some of your concerns about the current medical climate?

It saddens me greatly that all this great research has been ignored. That is why I wrote The Cancer Microbe (1990), and AIDS: The Mystery and the Solution (1984) and Four Women Against Cancer (2005).

Every first year med student knows that until you know what's causing a disease it's very hard to treat it. In my opinion, hunting for the exact cause of an illness is the most exciting part about being a doctor. The scientists who clued us into the cause of tuberculosis and syphilis, for example, were medical greats because they gave us an idea of what exactly is making the patient ill.

In my 30 years as a doctor and researcher I've never convinced one doctor, not even one, that bacteria cause cancer. My own younger brother is a physician — and I don't even think he believes me entirely. Two years ago, his daughter-in-law died at age 39 of Hodgkin's Disease, leaving two small children. I told him, "I wrote about Hodgkin's Disease!" But he wouldn't comment. If I can't convince my own brother — or even interest him in the subject —I feel there is little hope.

11. What concerns did Kaiser Permanente have about your research?

A problem with my research was that over a period of years I was finding acid-fast bacteria in patients with a wide array of different illnesses. Some skeptics would say "OK, maybe I can accept that you found bacteria in scleroderma, but come on, in all these diseases?" After several years of productive cancer microbe research, the research committee insisted I be interviewed by a statistician. The committee was concerned because I was discovering bacteria in too many diseases. The statistician insisted that I attempt a statistical study of these bacteria with suitable "controls." I explained that previous researchers had already determined that all human beings harbor such bacteria, and that these bacteria needed further study as pathogens. It might be impossible to find "negative" controls. At that point I

thought, “I’m doomed.” There was no way I could do a statistical analysis of my observations. My research was terminated.

12. Did anyone try to censor your work?

In 1984 Virginia Livingston wrote a second book about bacteria in cancer called The Conquest of Cancer. She asked me to write a blurb for the back cover of her book. Her publisher took out an ad for her book in the Los Angeles Times Book Review, which included my blurb. Unfortunately, my quote mentioned my association with the Southern California Permanente Medical Group. When the top brass at Kaiser discovered this they were furious. “You can’t do this! You can’t associate our name with a quack like Livingston!”

At the time I had also discovered that cancer bacteria play a role in the development of Kaposi’s sarcoma, the most common cancer in the newly discovered disease called AIDS. I explained that I had also written a book about AIDS and the bacteria involved in this disease, and that the book was in press and was to be published soon. The Kaiser officials were aghast and told me I was simply not allowed to publish this book. This was at a time shortly before the discovery of HIV and during the period when the precise cause of the immune deficiency was “a mystery.” I had always been well-respected at Kaiser, but I was fearful the Livingston brouhaha and the impending publication of my book might threaten my job.

Finally my literary lawyer stepped in and worked out a deal with Kaiser whereby I could publish AIDS: The Mystery & The Solution as long as I didn’t mention Kaiser in the book. I had to make sure the printer deleted all references to where I had done my cancer and AIDS research. The thing I had tried to avoid for so long had become a reality: I had inadvertently become a threat to the medical establishment, just like Virginia Livingston.

13. Tell me about your role model and colleague Virginia Livingston.

Alan Cantwell with Virginia Livingston

Virginia was a dear friend whose research formed the foundation of my scleroderma research and subsequent cancer microbe studies. My association with her and Irene Diller and Eleanor Alexander-Jackson and Florence Seibert, changed my life forever. Although she died in 1990 at the age of 84, Virginia still influences me. She is my “scientific soulmate.” These four women are my four greatest heroines in medical science. In Four Women Against Cancer, I describe their amazing cancer research. I knew them all personally, and sadly all of them are now gone.

14. What do you think about the Marshall Protocol?

When I heard about the Marshall Protocol I was taken aback. I never thought that a possible cure for chronic disease would happen in my lifetime. I used to tell people that there was no way known to kill L-form bacteria in the body.

In mid-life Trevor Marshall set out to figure out a good treatment or a cure sarcoidosis because he had the disease himself. That is how — via his own research — that he discovered me and I was made aware

of his own admittedly controversial ideas on how chronic diseases might be successfully treated. He certainly, almost single-handedly, revived my scientific career and I am exceedingly grateful to him for his interest and support of the cancer microbe work.

Having a disease is unfortunate, but it can serve as a great consciousness-raiser. Illness can also bring people together who would have never been brought together otherwise. This interview is a good example of that! From Trevor I am learning about the importance of the "vitamin D receptor" and that Benicar, along with long-term antibiotics can help rev up the immune system and apparently diminish L-form bacteria in patients who are trying his ideas. It's interesting because Livingston always said that the key to curing chronic disease and cancer is to improve the function of the immune system. In my opinion, the proof is in the pudding. Some people with chronic disease are reporting benefit from the MP.

Trevor's not a medical doctor but he obviously is an avid researcher and well-versed and well-trained in biochemistry, pharmacology, molecular biology, subjects that are way beyond my ken. Plus, I went to medical school a half century ago.

The MP has revealed that the healing process of certain chronic disease needs to go slowly, which in many ways goes against scientific dogma with its "quick cure with a round of antibiotics." Both Trevor and I believe bacteria are implicated in sarcoid, even though this is still denied by many physicians who consider sarcoid a "disease of unknown etiology" — and all the research pointing to bacteria in sarcoid is ignored. Trevor obviously believes bacterial infection also plays a role in certain other chronic diseases. If you think about it, diseases like tuberculosis, leprosy and cancer all take years to treat. You don't necessarily expect to get well in one month, one week, or even one year. Similarly, one shouldn't expect a quick cure in chronic disease, even though bacteria play a big role in these diseases.

15. What do you feel lies ahead in terms of cancer research?

I feel that the treatment of cancer will remain dismal until these bacteria are recognized as cancer-causing agents by the scientific and cancer establishments. Only then can better treatment methods be employed that actually are specifically directed against the buildup of these L-forms or are directed towards strengthening the immune system against them, or both.

Alan Cantwell is a retired dermatologist. He has written two books on the microbiology of cancer, The Cancer Microbe and Four Women Against Cancer: Bacteria, Cancer and the Origin of Life. A number of Dr. Cantwell's articles, including those which describe the above images in further detail, are published in Journal of Independent Medical Research. He can be contacted via email at alancantwell@sbcglobal.net.