

Fungus, Molds and Mycotoxins:

International Mycotoxin Summit 2016 in Dallas

By Simon Yu, MD

Studying fungus (Mycology) was not the most exciting subject during my medical school studies. However, problems associated with fungus, molds, and their byproducts, mycotoxins, have been exploding as a hot topic for the last twenty years. I've written many articles on parasites over the last twenty years but few articles on fungus and molds. The articles, *Molds - Enigma of Indoor Pollution* and *Yeast Syndrome* are on my website. Also, check John Parks Trowbridge, MD's book, *The Yeast Syndrome*, for many unexplainable medical symptoms. His book was published 30 years ago and is still up-to-date.

Fungus is a symbiont (living in synergy) with plants, animals, or other fungus. However, it can also act as a parasite. A fungus is any member of the fungal eukaryotic organisms (which contains nucleus) that includes unicellular microorganisms such as yeasts and molds as well as multicellular fungi known as mushrooms. Fungus and early parasites (protozoa) have been evolving over one billion years. Fungus is among us as much as parasites are among us. Fungus and parasites have been evolving with us. Fungi are genetically more closely related to animals than plants.

The fungi are considered a separate kingdom, distinct from both plants and animals. The Kingdom of Fungi has been estimated at 1.5 million to 5 million species, with about 5 % of these formally classified. Yeasts are single cell fungal organisms as members of the fungus kingdom. The most well-known are brewer's yeast, baker's yeast, and *Candida albicans*.

Brewer's and baker's yeast microbes are probably the earliest domesticated organisms by mankind for baking breads and brewing beers/wines going all the way back to Biblical times. On the other hand, *Candida albicans* are opportunistic pathogens and can cause infections in human, especially with the introduction of antibiotics and a high sugar/carbohydrate diet.

A mold is a fungus that grows in the form of multicellular filaments called hyphae. Many fungus can be in a single cell as yeast or multiple cells as molds (dimorphic) depending on the conditions for them to grow. Like all fungi, molds derive energy not through photosynthesis but from the organic matter on which they live by recycling often the dead or dying organisms.

These molds reproduce by producing large numbers of small spores which may contain a single nucleus or multi-nucleus. Mold spores can be asexual (the product of mitosis) and sexual (the product of meiosis) or both and they can produce mycotoxins. This information may seem irrelevant for you now but can be extremely important information later for much unexplainable illness for environmentally sensitive patients and physicians taking care of them.

The 2016 International Summit on Mycotoxin Treatments Conference was held in Dallas, Texas. The conference covered a broad spectrum of mycotoxin related illnesses and treatment plans. I was there to refresh my knowledge of mycotoxin related human illnesses. Among many outstanding speakers at the Mycotoxin Treatments Conference, Doug Kaufmann's lecture on the "Role of Fungal Mycotoxins in Cancer" was outstanding, most direct, get to the point, and relevant lecture for why we are getting sick. He wrote many books on fungus including, *The Germ That Causes Cancer*.

Some of the highlights of his lecture include:

The American Cancer Society defines fungal mycotoxins as genotoxic carcinogens. Fungal exposure has been greatly accelerated by sealing our homes, heat/air conditioning systems that encourage mold growth, erroneous promotion of grains (in Food Pyramid Charts over the last 70 years), increased alcohol consumption, the uncontrolled, wide use of antibiotics on animals and humans, and medications.

Fungal mycotoxins are genotoxic mutagens, immunosuppressive, tremogenic, neurotoxic, nephrotoxic, hepatotoxic, hemotoxic, cardiotoxic, lymphotoxic, and dermatotoxic. Aflatoxin b1 (AFB1) is the most hepatotoxic carcinogen and also the most common in food in peanuts and all grains.

Fungal infections can mimic many cancers including lung cancer and skin cancer. The mycotoxin, Aflatoxin b1 is known to cause p53 mutations. p53 gene is known to protect us from cancer proliferation. The damage to p53 allows cells with damaged DNA to proliferate. The p53 mutation is identified in over 50% of all human cancers.

Mycotoxins can also damage and induce cancer genetic mutations at c-myc, N-ras and c-K-ras gene. Fungal spores can survive phagocytosis of white blood cells by a thick viscous capsule. Paradoxically, white blood cells might protect the fungus from other defenses of the host and are instrumental for the spread of cancer/fungal cells, ultimately assisting in the metastasis to other organs in the body.

Most well-known mycotoxins are Aflatoxins, Ochratoxins, Fumonisin, Deoxynivalenol, and Zearalenones. These grain mycotoxins will glow green under UV black light. Pathologist Migdalia Arnan, MD describes green granules glowing within human cancer tissues when exposed to UV black light.

Fungus molds and mycotoxins not only cause genetic mutations but also promote genetic fusion, Karyogamy, the final step in the process of fusing together two haploid DNA of the human and fungal cells. Fungus and mycotoxins can promote human cancers by integrating their DNA into human cells like viruses. The Epstein-Barr virus, papilloma viruses, and hepatitis B and C virus have been known to promote human cancers by integrating their DNA into human cells.

John Hopkins Medical School in 2007 published, in the American Cancer Control (ACS) Chemical Biology, that fungal drugs like Itraconazole can stop cancer from metastasizing by inhibiting angiogenesis and a slow tumor growth rate. Scientists at the German Cancer Research Center have discovered that the antifungal drug, Griseofulvin, forces cancer cells into death (Identification of Griseofulvin as an inhibitor of Centrosome Clustering in a Phenotype-Based Screen, Cancer Research, July1, 2007).

Fungal, molds and mycotoxin related problems are often detected at the allergy/immunology point during evaluation of the acupuncture meridian assessment. Parasites and fungus evolve and often co-exist together. When using anti-parasite medications and anti-fungal medications, I have observed a stabilization of tumor growth and, sometimes, spontaneous remission, which I call Accidental Cure.

Dr. Simon Yu, M.D. is a Board Certified Internist. He practices Internal Medicine with an emphasis on Alternative Medicine to use the best each has to offer. For more articles and information about alternative medicine as well as patient success stories, and Dr. Yu's revolutionary health book *Accidental Cure: Extraordinary Medicine for Extraordinary Patients*, visit his web site at www.PreventionAndHealing.com or call Prevention and Healing, Inc., 314-432-7802. You can also attend a free monthly presentation and discussion by Dr. Yu on Alternative Medicine at his office on the second Tuesday each month at 6:30 pm. Call to verify the date. Seating is limited, arrive early.



Simon Yu, M.D.
Prevention and Healing, Inc.
St. Louis, MO
314-432-7802
www.preventionandhealing.com

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