



IAQ RADIO+

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Irene Dr. Irene Grant, MD
A Medical Perspective on Mold

Good day and welcome to IAQ Radio+ episode 761 Blog. This week we welcomed Dr. Irene Grant to talk about her experience treating people for mold infections and other medical issues. Dr. Grant previously joined us in 2013 and has been continuously treating cases ever since.

Dr Irene Grant is an Infectious Disease specialist with expertise in infectious complications in the immunocompromised. In the 1980's, in the midst of the HIV/AIDS epidemic, she trained at Memorial Sloan-Kettering Cancer Center in New York City where she acquired training in Microbiology and Hospital Infection Control. Thereafter she spent years in academic medicine as an Assistant Professor of Medicine at Albert Einstein College of Medicine and later Clinical Assistant Professor of Medicine at New York Medical College. Later, in private practice, she applied her experience investigating unusual illnesses to help her patients sick from hazardous indoor exposures. For the past 24 years, she has evaluated and treated hundreds of debilitated patients and families with hazardous microbial exposures.

Questions/Topics

Please tell our audience about your work over the past decade or so? She explained that since our last interview in 2013, she has focused on evaluating and treating patients exposed to hazardous indoor mold and mycotoxins, conducting research and presenting findings at international conferences, particularly in Europe.

Few fungi cause infection in humans: notably *Aspergillus fumigatus* which has the highest fatality rate, *Cryptococcus* & *Histoplasma* found in bird and bat droppings. While the majority of fungal medical research has been focused on pathogenic fungi (*Cryptococcus* & *Histoplasma*); Dr. Grant interest has been focused on hazardous indoor fungi (*Aspergillus*, *Penicillium*, *Chaetomium*, and *Stachybotrys*.)

Is Stachybotrys infectious? *Stachybotrys* is not thought to be infectious. Infectious and toxic are different. Colonization only is not considered infection. Infection grows and penetrates damaging tissue.

How long does fungal identification take? Candida takes 5 days, 6-8 weeks is required to ID certain fungi.

Fungal Infection Diagnosis Challenges

According to Dr. Grant the US is behind on fungal infection diagnosis. She discussed fungal infections, focusing on indoor environmental molds like *Aspergillus*, *Penicillium*, *Chaetomium* and *Stachybotrys*. She explained that while *Stachybotrys* is toxic rather than infectious, proper diagnosis of fungal infections is challenging due to limited laboratory capacity and diagnostic tools, particularly the lack of potassium hydroxide (KOH) testing in many hospitals. Dr. Grant noted that only academic hospitals and certain specialists like pulmonologists and oncologists have the capability to properly diagnose and treat fungal infections, highlighting a significant gap in healthcare capacity for fungal disease diagnosis.

[Potassium hydroxide (aka caustic soda, lye). KOH is a strong alkali. When specimen such as skin, hair, nails or sputum is mixed with 10% w/v KOH, it softens, digests and clears the tissues (e.g., keratin present in skins) surrounding the fungi so that the hyphae and conidia (spores) of fungi can be seen under a microscope. (microbeonline.com)]

Is *Aspergillus fumigatus* found often indoors? Yes, she always finds it indoors or suspects that the testing isn't good.

Mold Infections and Immune Defense? Dr. Grant discussed the vulnerability of patients with compromised immune systems and barrier function to mold infections, highlighting the importance of the skin and mucous membranes as primary defenses. She explained the difference between mold colonization and infection, emphasizing the role of immune cells and the effectiveness of certain medications like amphotericin in treating fungal infections. She also shared her experience using amphotericin topically for sinusitis and its positive results, as well as the potential benefits of saline rinses for nasal hygiene, while cautioning against swallowing the solution due to its sodium content.

Mold Diagnostics and Collaboration Challenges- Dr. Grant discussed the challenges in diagnosing and treating mold-related health issues, highlighting the need for better collaboration between medical, industrial hygiene, and remediation communities. She emphasized the complexity of indoor mold exposure, which can

involve both toxicological and infectious components, and noted the utility of certain biomarkers like gliotoxin and macrocyclic trichothecenes in identifying exposure and infection. Dr. Grant also shared her experience with causation cases, such as a patient with a fungal infection linked to sewage-contaminated housing, and expressed the need for more definitive studies and specialized testing to establish causation in mold-related health issues.

Mold Illness Awareness and Treatment- Dr. Grant discussed her work in mycotoxicology, focusing on the dangers of mold exposure, particularly through inhalation. She shared her sinus treatment protocol using compounded Amphotericin B and emphasized the need for better public awareness and education about mold-related health issues. Grant expressed her desire to replicate the successful model used in the AIDS epidemic by combining patient care with high-quality epidemiological research to advance treatment and prevention strategies for mold-related illnesses. She also highlighted the challenges faced by patients with severe mold illness and the lack of recognition from the medical community regarding intravenous antifungal treatments.

Dr. Irene Grant's additional comments:

- People with scarred lungs, AIDS, cancer are prone to fungal infections.
- Two common pathways for fungal infection: 1) dandelion model, 2) fungal spore lands, spreads by producing hyphae which form a protective mass.
- Fungal and bacterial biofilms are different. Under microscopy fungal biofilm resembles steel wool. Few medications are effective. Cleveland Clinic uses amphotericin successfully.
- Saline is a fascinating and overlooked antifungal. Surgical sites are flooded with saline during surgery.
- The human soft palate is akin to a “crawl space” in a building.
- Mold is a factory; simultaneously producing: toxins, gases and MVOCs
- Opined that sinusitis causes reflux.
- Regrets she hasn't convinced the medical community that fungal infection (skin, hair, nose) is a real diagnosis.
- Beta glucans are definitely inflammatory. Does Beta glucans compound or rev-up the immune system?
- Dust produced in moldy sewage contaminated buildings is dangerous.

- Her sickest patients are people that tried to clean mold without PPE and subjected themselves to intense unprotected exposure.
- Ed Lights chat comments: “The science establishes that (a) fungal infections are associated with agricultural, industrial and hospital acquired exposures; (b) severely immunocompromised patients are susceptible to fungal infections; and (c) Opportunistic fungi are present in indoor and outdoor air under background conditions. What studies have demonstrated causation of fungal infection in occupants exposed to indoor mold growth or fungal infections in mold remediation workers? Has there been any epidemiology investigating this?” Dr. Grant attributes Ed’s comments to what keeps her going!
- Mold remediators are cowboys who don’t fear Stachy.
- Inhalation is the most efficient and dangerous pathway for mold exposure.
- Dr. Grant has used Amphotericin B topically as a sinus lavage (rinse) and throat wash to alleviate a diverse range of symptoms including but not limited to: reflux, chronic fatigue, IBS, postnasal drip, chemical sensitivity, etc. Doctors in the UK have access to aerosol Amphotericin B and use it to treat fungal lung infections including nodules.
Dr. Grant’s Sinus Showering Formula: Compounding pharmacist prepares a solution of amphotericin B powder in sterile water. 300 milligrams amphotericin per 500 cc’s water. Spray 20 times in each nostril multiple times per day and swallow.
- Trichothecenes are tiny, directly go into blood and are unequivocally dangerous.” [“Trichothecenes constitute a large group of chemically related mycotoxins. They are produced by fungi of the genera Fusarium, Myrothecium, Trichoderma, Podostroma, Trichothecium, Cephalosporium, Verticimonosporium, Stachybotrys and possibly others.” Source Wikipedia]
- “Severe persistent illness, including Chronic Fatigue, neurological and psychological symptoms, is associated with past mold exposure and parallels intensity or chronicity of mold exposure, impaired cell-mediated immunity, and continued mycotoxin excretion. The striking 90% response to oro-nasopharyngeal-GI biofilm focused antifungal therapy supports the pathogenic model that toxin producing molds can colonize airways causing significant disease.”

- Gliotoxin is an immunosuppressive mycotoxin produced by fungi such as *Aspergillus fumigatus*, known for its cytotoxic effects and ability to promote fungal infections by suppressing the immune system. It works by damaging cells, including immune cells, and interfering with cellular processes through the production of reactive oxygen species (ROS). Molds make toxins, carcinogens and immune suppressants. Patients with fungal infections may excrete mycotoxins. Mycotoxins are products made by molds, thus excretion of mycotoxins may indicate an ongoing nidus of viable mold in the body. Research is needed.

RoundUp

- Dr. Grant is assembling a database of her patients.
- Dr. Grant opines that she can't go to and thru the medical community, must go through public health to get to housewives.
- People now understand AIDS and Safe Sex, they need to understand MOLD and Safe Living.
- She feels like the little girl with her finger in the dike or like an American Indian Scout "Look over there!"

Z-Man signing off

Trivia question:

What is the primary difference between endotoxins and mycotoxins?

Answer: Endotoxins are released from the outer cell wall of Gram- bacteria and mycotoxins are produced by fungi.

Answered by: Paula Schenck