

Discovery of Histoplasmosis

Histoplasmosis was originally discovered in Panama by Samuel Darling, then the Philippines, and finally, the United States. Histoplasmosis is now known to be endemic in North and South America with lower prevalence in SE Asia and Africa. Cases occur in Europe but are infrequent.

Histoplasmosis (Darling's disease) was known as a common granulomatous pulmonary disease in the 1930's and often mistaken for tuberculosis. Unfortunately, these patients were often admitted to tuberculosis sanatoriums where they contracted tuberculosis. Chester Emmons, at the National Institutes of Health, isolated *Histoplasma capsulatum* from soil samples in southeastern United States in the late 1940's followed by reports of human infections. Emmons created the taxonomy of the dermatophytes. He later wrote the classical textbook *Medical Mycology* which introduced fungi as an important human pathogen to physician. The Ohio and Mississippi River basin was identified as major grounds for Histoplasmosis. *Histoplasma capsulatum* could remain either in a yeast-like or mycelial phase within birds and their droppings. Humans born in these surroundings were commonly infected as assessed by skin testing, but symptomatic disease was rare. Individuals who moved to these areas as adults were more likely the ones who became ill and even died from histoplasmosis. This explained why Samuel Darling's first patients who died were canal workers who were not natives of Panama.

In 1944, Amos Christie, a pediatrician from Vanderbilt University, discovered that this presumably rare and often fatal disease was, in fact, a common pulmonary disease in the United States usually with a benign outcome. After noticing an extraordinary number of children presenting with calcification of the lungs who tested negative for tuberculosis, Christie discovered the culprit to be *Histoplasma capsulatum*. In the 1930s-1950s, the Giemsa stain and Methenamine silver stain made it possible to diagnose thousands of new cases worldwide as well as correctly diagnosing previous cases that had been incorrectly attributed to malaria, yellow fever or tuberculosis.

Amphotericin B was extracted from a *Streptomyces* bacterium from soil in Venezuela by Squibb Institute for Medical Research in 1955. It was subsequently introduced for clinical use in 1958 as Fungizone®.

References

Daniel TM, Baum GL. *Drama and Discovery: the Story of Histoplasmosis*. Greenwood Publicly, 2002.

Image: Skin reactivity to histoplasmin was assessed among Navy recruits from the continental United States from 1958 through 1969 by Edwards.

Light-gray shading indicates the approximate geographic areas with at least 10% prevalence of

positive histoplasmin skin test reactivity (induration \geq 4-mm diameter), and dark-gray shading indicates the approximate areas with at least 60% prevalence.

Circles indicate the general locations of the 10 cases in the series (Lee JH, 2002).

