

Fungal Origin of Cancer in Human

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For the past several years, we have been familiar with the bacterial and viral origin of cancers, so it may not be so far-fetched to stretch causation to fungal overgrowth. It appears that the number of patients with fungal overgrowths has risen dramatically with comprised immune responses in the last half-century (David., *et al.* 2015). Dr Johannes Fibiger, a Nobel laureate of Denmark in 1913 has already proved the fungal connection with the development of cancer in humans by feeding rats with parasitic larval-carrying cockroaches infected by fungi. These rats developed cancer (Fibiger 1913). Fungi have, thus, also been found to cause a variety of cancers described as under:

- Invasive candidiasis causing cancer
- Mycotoxins causing cancer
- Mushrooms causing cancer.

Candidiasis is caused by a white fungus, *Candida albicans* which lives in the human body lifelong in an ecofriendly manner in the natural openings that are mostly found in the oral cavity and vagina. This is developed when their growths are forcibly disturbed. It has been observed that nearly one-third of the human population is continuously being affected by invasive candidiasis developing oral and vaginal thrush globally. The major risk factors for invasive candidiasis are the indiscriminate use of antibiotics, hormones, oral contraceptives, diabetes and post-surgical complications. It may cause candidal sepsis and leaky gut syndrome (LGS) developing a kind of immunity failure resulting in the damage of certain organs associated with them. Several scientists especially Italian oncologist Dr Tullio Simoncini have documented the role of candidiasis in causing cancer in humans.

Further, certain mycotoxins released by the mould fungi have some fatal consequences in humans. They are also being treated as the slow poisons causing mutations in the cellular genome developing cancer in humans. Some of the carcinogenic mycotoxins like aflatoxins, sterigmatocystin, ochratoxin, zearalenone, fumonisins, trichothecenes, cyclosporin, patulin and rubratoxin are released by the *Aspergillus flavus*, *A. nidulans*, *A. ochraceus*, *Fusarium verticillioides*, *F. culmorum*, *Stachybotrys chartarum*, *Tolypocladium inflatum*, *Penicillium griseofulvum* and *P. rubrum* respectively.

These mycotoxins are either cytotoxic, genotoxic or mutagenic in nature. They cause chromosomal aberrations, abnormal sister chromatids exchange, mismatched and displaced DNA synthesis developing immune suppression, toxic aleukia, leukaemia, lymphoma, mesothelioma, bronchial, uterine and renal cell carcinoma, demyelination and neural disorders. Though these mycotoxins virtually destroyed every organ of the body, their most affected parts of the body are the liver, kidney and breasts.

Similarly, some of the mushrooms are containing mycotoxins developing several diseases and cancer in humans. Most of these mushroom mycotoxins contain hydrazines which are either carcinogenic or mutagenic in nature. Some of them are agaritine, gyromitrin, amanitins and trichothecenes. Currently, this is in a nutshell outline picture of the fungal origin of cancer in humans.

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