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CHRONIC CANDIDIASIS — PATHOGENESIS, SYMPTOMS, DIAGNOSIS AND TREATMENT

ABSTRACT: The yeast named Candida normally colonises the gut and vagina without causing any sign of its presence. It is a commensal and opportunistic fungus but in certain conditions it turns to be pathogenic, causing chronic disturbances in any part of the body. The pathogenesis is complex, signs and symptoms are non-specific. The colonisation is difficult to distinguish from invasive disease. The current diagnostic methods do not always allow a definitive diagnosis to be made. Treatment is complex, individual and no protocol can be created. The author tries to give an overview of the Candida related problem.

KEY WORDS: Candida, chronic Candidiasis, yeast infection,

INTRODUCTION

This presentation deals with the pathogenesis, symptoms, diagnosis and treatment of chronic candidiasis. It is based on the author’s over thirty years long experience and it is supplemented with data from the bibliography. In order to put the problem into historical perspective, a short chronological survey about the perception of pathogens and the body’s milieu comes next.

Louis Pasteur (1822—1895), chemist and microbiologist, linked different infectious diseases to different pathogens. He believed that these infectious organisms were the most important etiologic factors and nothing else was needed for a disease to develop. He discovered that penicillin had antibiotic effect against many bacteria. At the same time Claude Bernard (1813—1878), physiologist, discovered the importance of the body’s internal environment, and taught that all the components of the blood must be in balance, if not, the pathogens could cause infection. To maintain the homeostasis means to stay healthy and to be protected from the pathogens. These two different approaches to the infectious diseases were the root cause of their disagreement. At the end of his life, Pasteur recognized that Bernard had been right, saying: “The pathogen is nothing, the terrain is everything.” Elie Metchnikoff (1845—1916) biologist, microbiologist and pathologist, studied the body’s bowel flora
and found out that there was an antagonism between *Lactobacillus acidophilus* and bacteria causing putrefaction. He believed that the products of putrefaction were absorbed and intoxicated the body causing early aging. To prevent this process, he recommended increased intake of yogurt, containing a lot of living friendly bacteria. He discovered the white blood cells and their role in protecting the body from infection. He believed, as Bernard, that the correct way to deal with infectious diseases was the enhancement of the body’s own defenses.

These were the data from the 19th century. What happened in the 20th?

The influence of Louis Pasteur was dominant. Discovering and using antibiotics of broad spectrum and thanks to the vaccinations, a lot of infectious diseases were eradicated and many lives were saved. But what is the side effect of this success? The overgrowth of fungus and bacteria resistant to antibiotics. As the medical treatments are getting more and more aggressive (not only antibiotics, but hormones, immunosuppressive- and chemotherapy), destroying the body’s own already weakened defenses by the western life style, we must face up to the serious upcoming problems. As quoted often in the bibliography, the presence of fungal infection among the patients in the intensive care units often causes death of immunocompromised patients. These fungal infections are iatrogenic, so should be prevented in a proper way. The conventional western medicine most often uses symptomatic therapy — for infection antibiotics, for pain painkillers, for inflammation anti-inflammation drugs, etc. Researchers in conventional medicine try to develop more efficient and aggressive drugs against the resistant pathogens. On the contrary, doctors who are familiar with complementary medicine try to find out the cause of the imbalance and help the body to build up the weaken defenses. Restoring the homeostasis, the body will cure itself. The WHO in 1996 emphasized the significance of integrative medicine for the 21st century. Now it is time to change the paradigm of Pasteurian approach to the infection, and investigate the patient’s status in a holistic way.

The present western way of life (unhealthy diet, harmful influence of the environment, lot of stress, etc.) leads to the long term imbalance of the homeostasis. In such a case *Candida* may overgrow, causing with its metabolic products — mycotoxins — disturbances in different organs all over the body, and the patient “feels sick all over”. The symptoms come from the local *Candida* overgrowth in the gastrointestinal tract, vagina or urinary bladder and from the damages of different organs. As the symptoms do not relate to any well described disease, the patients are considered to be psychosomatic — their health problems are related to their brain. Moreover, many doctors consider the *Candida* related problems as a fad.

Dr. Orion Truss, a specialist in internal medicine and allergy, published the “The Missing Diagnosis” in 1983. He was the first to describe the concept of chronic Candidiasis based on his twenty years clinical experience.

At the same time Dr. William G. Crook published his own experience in the book “The Yeast Connection”. Their works were considered as pseudo-scientific for lacking double-blind and placebo-controlled clinical trials. The author of this article had more then thirty years clinical experience which confirms that Truss and Crook were right.
“The Mycotoxin Blue Book” lists disorders that mycotoxins cause in animals when feed is infected with fungi. It is interesting that the symptoms in these animals are the same or very similar to those experienced in people suffering from *Candida* overgrowth. Adding ‘Mycosorb’ to the infected feed prevents the intoxication of the animals by adsorbing the mycotoxins. These are objective data and not a whim. The existence of *Candida* related problems are denied by those not up-to-date on recent medical, microbiological, biochemical literature.

**PATHOGENESIS**

For most of the patients the chronic candidiasis is iatrogenic in origin, and the western lifestyle also leads to the imbalance of friendly bacteria, *Candida* and host immune system interactions. The compromised immune system or lack of friendly bacteria may lead to *Candida* overgrowth in the gut or vagina causing local symptoms and functional disorders in other organs — the benign round yeast form of *Candida* converts into invasive budding mycelial form. However, *Candida* can cause functional disorders without causing a classical local infection, but so called dysbiosis or “silent infection” of the gut or vagina. In this case the symptoms are due to the absorbed metabolic products called mycotoxins produced by *Candida* and chronically released into the bloodstream.

*Candida* produces certain molecules which interfere with normal human cellular metabolism, such as alcohol, acetaldehyde, ammonia and uric acid. *Candida* also externalizes a protein-digesting enzyme (proteinase) which lyses secretory IgA of the mucosa and humoral immunoglobulins, keratin and collagen as well. Proteinase also destructs the microvilli of intestine and leads to lack of mucosal digestive enzymes causing maldigestion and malabsorption. The damage of the intestinal mucosa results in leaky gut (increased permeability of the intestine) with increased absorption of debris (large undigested food particles, bacterial and yeast components and various toxic chemicals) from the gut and in overstimulation of the immune system (polyclonal T- and B-lymphocyte activation and production of excessive levels of cytokines and other inflammatory effectors) that may lead to several systemic inflammatory disorders, allergy and autoimmune diseases. Gliotoxin produced by *Candida* suppresses human immune function. The combination of mucosal damage, destruction of IgA and humoral immunoglobulins and immunosuppression, allows the ongoing chronic infection caused by other microbes.

**CLINICAL PICTURE**

As the pathogenesis is very complex, the patients may have very different symptoms depending on which organs are involved. Any organ seems susceptible to the effect of yeast products released to the bloodstream. Symptoms change in intensity and complexity at different times in an illness, just as they vary in different individuals with the same illness. The clinical picture
will not be identical in every patient, or in the same one at different stage of the illness. The same variety of symptoms allows this condition to masquerade under a number of different diagnoses. This is the reason why the patients are usually misunderstood, sent to psychiatric consultation but the tried psychiatric treatments are futile.

The symptoms can be limited at the site of infection of the intestinal tract, vagina, or urinary bladder. Other symptoms are caused by the candida products released to the blood stream, or have allergic origin. Almost every organ is capable of allergic or toxic response, resulting in clinical manifestations as varied as the combinations of affected tissues. But, it is difficult to prove which symptoms come from allergic or toxic reaction. To make the problem even more complex, most of the patients have at the same time symptoms of mal-digestion and nutrition deficiency, or some other illness not related to Candida. All these circumstances render the Candida syndrome confused. The following symptoms can be experienced:

Local symptoms of the intestinal tract: coated tongue, oedema of the tongue, oral thrush, heartburn, abdominal discomfort or pain, distension, bloating (with or without odor), constipation, diarrhea, mucus in the stool, rectal itching.

Local symptoms of the vagina: yoghurt like discharge with itching.

Local symptoms of urinary bladder: distension and bloating of empty bladder, urgency, burning and frequency of urination.

Other symptoms of allergic or toxic origin to mention but a few:

Nervous system: headache, depression, uncontrollable crying, anxiety, loss of memory and concentrating ability, sleeping disorder, sleepiness during the day, lethargy, fatigue, lack of energy, drinkless drunkenness.

Skin: hair loss, dry skin, itching, urticaria, dermatographism, eczema.

Respiratory system: cough asthma.

Cardiovascular system: palpitation, instable blood tension, cold arms and legs.

Immunsystem: recurrent or chronic bacterial or virus infections.

Locomotor system: joint swelling and stiffness, muscle pain.

Endocrine system: hypoglicaeemia, need to eat often, abnormal craving for sweets, overweight, feeling better after eating sweets but immediately bloating, reduced or lack of sexual desire, menstrual problems.

Other symptoms: food and chemical intolerance.

**DIAGNOSTIC PROCEDURE**

To prove the connection between the symptoms and candida is not easy, because presently available diagnostic methods are imperfect. The results should be always considered individually in relation to the clinical picture.

Many published studies have shown in everyone’s blood the presence of candida antibodies (IgM, IgG) which can be measured, as Candida is normally present in the body. That is why the early skin prick test is normally positive to Candida. By the early age of six months almost 90% of the babies have po-
sitive early skin test to Candida. This is the result of a good humoral immune function. When the immune system is weakened (it can be also caused by Candida products), and the level of antibodies against candida is very low or absent in the blood stream, the positive early skin test turns to negative. But, antibodies are not actively involved in protecting the body against the yeast. The cellular immunity is responsible normally to eliminate Candida from the tissues, so the late skin test to Candida is positive normally. But, in the case of candidiasis, the late skin prick test to Candida is negative showing the impaired cellular immune function. Successful anti-Candida treatment and stimulation of the cellular immunity will turn the negative late skin test to positive.

Cultures for Candida obtained from mouth, stool or vagina can be normally positive, but negative ones do not rule out the diagnosis of chronic candidiasis, just show the absence of Candida in those samples.

The level of blood sugar can be low — hypoglycemia. The level of alcohol, transaminases of the liver, uric acid, and cholesterol can be high.

Some diagnostic methods used by complementary medicine can be added as bio-resonance, kinesiology, dark field microscopic blood analysis, etc.

Sometimes, the successful anticandida “ex juvantibus” treatment of the disease of “unknown etiology”, will confirm the fungal connection.

TREATMENT

Treatment will be discussed in a general way as it is very complex and should be individually formed. The first aim is to discover the causes of the homeostasis imbalance and eliminate them. Then, the following should be considered parallely: to stimulate the immune system, to support the detoxification of the body, to kill and eliminate the dead Candida, and to substitute the nutrition deficiency. Often, the treatment takes time, sometimes several months or years. In most of the cases the combination of antifungal drugs with the treatment methods of the complementary medicine is recommended or required. Long term changes in lifestyle are required.

PREVENTION

For everyone, who has suffered from Candida infection or not yet, it is recommended to take more attention to the conditions leading to dysbiosis or Candida overgrowth and avoid them as much as possible. Try to maintain good health condition, the homeostasis of the body. For medical doctors it is advisable to think about the possibility of Candida infection as a side effect of some therapy (antibiotic, corticosteroids, birth control pills, immunosuppressive therapy, chemotherapy, etc) and as a cause of health problem, before sending the patient to psychiatrist. Holistic approach to every patient should be followed.

The author’s case studies:
1. Case of seronegative polyarthritis: 60 years male was diagnosed as seronegative polyarthritis, but he has never believed in his diagnosis. He kept trying to find out the cause of his disease. One day the vet prescribed for his very old dog an antibiotic for pneumonia, recommending to supplement it with antifungal drug in order to prevent fungal infection for the case of survival. The dog died, leaving behind the drugs. The master decided to take the antifungal ketokonazole. After a week of treatment he felt better, the bloating in the bowel and the diarrhea disappeared, the movements in his joints improved, the painful swelling of them almost disappeared. He asked his doctor to prescribe him more ketokonazole but the latter resisted saying: It isn’t a protocol to treat the polyarthritis with ketokonazole.

2. Case of chronic urticaria: thirty years female was suffering of chronic urticaria for several years. All results of the investigations were negative except the bile — Candida albicans was cultured, but no doctor took it seriously. Several days after the beginning of anticandida regime urticaria disappeared. She was free of it for five years. Then she got antibiotics for tooth inflammation for a period of five days. She took no attention to the diet, did not take antifungal drugs and friendly bacteria. After three weeks urticaria returned.

3. Case of vitiligo, chronic urticaria and acute asthmatic attack: twenty six years old male had vitiligo since he was 15. It began after a stress. Later every stress expanded the vitiligo. At the age of 25 urticaria appeared and remained chronic. One year later an asthmatic attack led him to the doctor who gave him steroids but without effects. His tongue was coated with Candida. Bioresonance testing showed a severe allergy to Candida. After the beginning of anticandida regime urticaria disappeared, together with the asthmatic attacks and the vitiligo began slowly to decrease.

4. Case of chronic alcoholism without alcohol consumption: fifty years old female was suffering for years of the symptoms of chronic alcoholism but never drank. Several times she needed hospitalization. Every time the level of blood alcohol was high, as the liver enzymes. The doctors did not clear up. Only the bioresonance testing showed allergy to Candida. The anticandida regime was successful. After six months no alcohol was detected in the blood. She feels healthy for more than two years.

5. Case of cirrhosis hepatis: fifty-eight years old female was hospitalized for haematemesis — vomiting fresh blood. The diagnosis was decompensation of cirrhosis hepatis and bleeding from the oesophageal varices. Candida albicans was cultured from her tongue. Two months of antifungal treatment compensated her — ascites and swelling of legs disappeared, liver enzymes turned to normal, but the varices of the oesophagus remained. She felt healthy. After three months she died after a severe bleeding from the varices but with normal liver function.

In all of these five cases the role of Candida was unrecognized by the doctors of conventional medicine. But these cases do not mean that every polyarthritis, urticaria or cirrhosis hepatis are related to Candida, but this possibility should be considered.
CONCLUSION

Candida is a commensal saprophyte fungus, but turns to pathogenic by changes in the internal balance of the body. So, fungal problems are secondary to other primary imbalances related to the general health of the immune system. It is difficult to diagnose the Candida overgrowth, in lack of unequivocal objective tests to verify its existence and the relation between the Candida and the symptoms. Laboratory results may be Candida positive, but it does not mean that the health problem is related to Candida overgrowth; neither can negative results exclude it. Therefore, one should start out with a high index of suspicion in making diagnosis of fungal infection. No treatment protocol can be established; healing must be individual, sometimes lasts quite long and may require lifestyle changes. Treating only the fungal infection may help relieve some of the symptoms, but the persistence of underlying imbalance will allow the condition to be chronic. The recovery of the immune defense system’s function is the first aim. To kill Candida is not sufficient.

REFERENCES


ХРОНИЧНА КАНДИДИЈАЗА — ПАТОГЕНЕЗА, СИМПТОМАТОЛОГИЈА, ДИЈАГНОСТИКА И ТЕРАПИЈА

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Резиме

Квасна гљивица звана кандида нормално колонизира пробавни тракт и ва-гину, не дајући никакве знако свог присуства. Она је коменсална и опору-н-стичка гљивица, која се под одређеним условима може преобразити у патогену,
узрокујући хроничне поремећаје у функцији различитих органа. Патогенеза је комплексна, а знаци поремећаја су неспецифични. Тешко је одредити границу између нормалног стања колонизације и патолошког стања инвазије. Данас постојеће дијагностичке методе нису увек у стању да потврде дијагнозу хроничне кандидијазе. Не постоји јединствени протокол лечења јер је оно комплексно и индивидуално за сваког пацијента. Аутор рада приказује проблематику везану за хроничну кандидијазу.