

USANA Technical Bulletin

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Candidiasis

Description

- Candidiasis is also known as candidosis and moniliasis. It is usually a mild, superficial fungal infection, but it can lead to severe disseminated infections and fungemia in an immunocompromised patient. In most cases, the causative fungi infect the nails (paronychia), skin, mucous membranes (thrush), vagina (vaginitis), esophagus and GI tract. If candida enters the bloodstream, it may invade the kidneys, lungs, endocardium, brain, or other structures, causing serious systemic infection.¹
- There is much debate about the similarity of symptoms associated with candidiasis, fibromyalgia, and chronic fatigue syndrome. This has led some investigators to suspect that they all stem from immunodepression and may be caused by an imbalance of bacteria and yeast. These same investigators recognize the similarities and differences of the associated symptoms but are investigating the potential of a similar cause.

Causes

- Overgrowth of the unicellular fungus *Candida albicans* is the most common cause, although many other species of *Candida* exist and may cause candidiasis. Antibiotic therapy, high glucose levels (as in diabetes) or immunosuppression are factors that commonly permit *Candida* proliferation.

Types

- Chronic mucocutaneous candidiasis is a cellular immunodeficiency characterized by persistent *Candida* infection of the mucous membranes, scalp, skin and nails. This type is often associated with an endocrine problem, such as hypothyroidism.²
- Genital candidiasis is a yeast infection of the genital tract caused by *Candida albicans*.²

At Risk

- Diagnosed more in women than men.²
- People who take broad spectrum antibiotics.² Antibiotics kill all types of bacteria including those that provide protection from yeast and mold.
- Diabetics may be at a higher risk than the general population.¹
- Though difficult to diagnose, some newborns are at risk for the disease.³

Prevention and Management

- If you are at risk or think that you may have a yeast infection talk with your doctor. An elimination diet may help to ensure that the symptoms are not caused by a food allergy.
- Deficiencies of folic acid, riboflavin, biotin, vitamin A, vitamin B₆, vitamin C, copper, iron, magnesium, selenium, zinc, or essential fatty acids may play a role in candida infection.⁴
- The primary goal of many *Candida* diets is to remove as many of the sources of yeast from the diet as possible. These diets also minimize the types of foods that may provide nutrients and environments conducive to yeast growth.
- Mice fed diets that included sugar had a higher yeast count than those mice fed non-sugar diets. There is also anecdotal evidence that women who have had yeast infections may get a recurrence of symptoms after eating sugar.⁵
- One study suggests that diets high in dairy products, artificial sweeteners, and sucrose may increase the incidence and severity of candida vulvovaginitis.⁶
- Many doctors recommend nutritional supplements in addition to the various diets. This ensures proper nutrition during the modification of the diet.⁹
- Fiber is effective in increasing the likelihood of remaining *Candida*-free.⁷

Sources of Additional Information

- <http://www.raincity.com/candida/dilemma2.htm>
- <http://www.panix.com/~candida/>

Abstracts

McDonnell M, Isaacs D. Neonatal Systemic Candidiasis. *J Paediatr Child Health* 1995 Dec;31(6):490-2. Systemic candidiasis is notoriously difficult to diagnose in neonates; however, it is frequently described and has a high mortality and morbidity. It is particularly likely to occur in extremely low birthweight babies, especially those receiving long-term parenteral nutrition and antibiotics. The clinical features are non-specific. Thrombocytopenia occurs in almost all cases of systemic candidiasis, but also in about half the cases of bacterial sepsis. Empirical antifungal therapy should be considered more readily for high-risk, clinically septic, thrombocytopenic babies.

Samaranayake LP. Nutritional factors and oral candidosis. *J Oral Pathol* 1986 Feb;15(2):61-65. A variety of nutritional factors including deficiencies of iron, folic acid, vitamins, and diets rich in carbohydrates have been implicated in the pathogenesis of oral candidal infections. The following reviews the growing body of data, from in vivo and in vitro studies, related to each of these implicated factors. Although much disagreement exists as to the specific roles played by these individual factors, there is little doubt that nutritional factors either acting locally or via systemic mechanisms could significantly affect the pathogenesis of oral candidoses. Hence, the role of these less well-characterised predisposing factors should be considered when one is treating patients with intractable oral candidal infections.

References

¹ Disease. 2nd ed. Springhouse (PA):Springhouse Corporation; 1997. p 143-4.

² The Merck Manual. 16th ed. Rahway (NJ): Merck Research Laboratories; 1992. p 314-315, 266..

- ³ McDonnell M, Isaacs D. Neonatal Systemic Candidiasis. *J Paediatr Child Health* 1995 Dec;31(6):490-2.
- ⁴ Werbach MR. *Nutritional Influences on Illness*. 2nd ed. Tarzana (CA):Third Line Press; 1993. p 173-8.
- ⁵ Crook WG. *Chronic Fatigue Syndrome and the Yeast Connection*. Jackson (TN):Professional Books; 1992. p 349-350.
- ⁶ Horowitz BJ et al. Sugar chromatography studies in recurrent *Candida* vulvovaginitis. *J Reprod Med* 1984;29(7):441-43.
- ⁷ Reed BD, Slattery ML. The association between dietary intake and reported history of *Candida* vulvovaginitis. *Journal of Family Practice* 1989 Nov;29(5):509-15.