OCCURRENCE OF CAND1DIASIS IN WOMEN

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Abstract

The study was carried out to determine the various effects of *Candida albicans* on women. Information for the study was obtained from varied literatures, oral interviews from women who have had at least one episode and General Practice Clinic. The study revealed that *Candida albicans* is a yeastlike fungus that often grows as a normal flora on mucous membrane of the mouth, intestinal tract, genito-urinary tract and vagina. This fungus has widespread occurrence in adult women, especially those, who are on antibiotics or oral contraceptives, diabetic or pregnant women and women with poor sanitation. The symptoms of infection caused by *Candida albicans* are usually itching-burning sensation, white-yellow milky discharge, inflammation, painful ulceration, irritation and a yeasty odour, this condition is generally termed candidiasis. There is a chance that infection can be passed from persons to persons through sharing of toilets and under wears and also through sex. It is diagnosed by identifying the fungus and making a sensitivity plate to know the best treatment. Drugs like Clotrinazole, Miconazole etc, can be administered. Pregnant women can be treated with cream containing iinizadole without jeopardizing the foetus.

Introduction

Bacteria and fungi are the most common cause of infection in human beings. Some of the bacteria are Staphilococcus, Streptococcus, Proteus specie, *Latto bacilla, Trichomonas vaginalis,* syphilis, chlamydia, etc. The fungi organisms include Zygomycota, Ascomycota, Basidiomycota, Deuteromycota, Aspergillus, Trichosporon, Microsporum, Epidermophyton, *Cryptococus neoformans, Histoplasma capsulatum, Tinea nigre, Candida albicans.* Among all these, *Candida albicans,* which causes infections of the mouth, intestinal tract, genito-urinary tract and vagina is the main focus.

According to Duguid and Swain (1978), *Candida albicans* is a yeast-like fungus that is found growing on the mucous membrane of the mouth, intestinal tract, genito-urinary tract and mostly vagina. However, *Candida albicans* can be found in healthy individuals, because it is a normal flora that is usually found harmless in part of the surface of the gut micro-flora of about 5% of the adult human population. (Talaro and Talaro 1993).

Candida albicans also represent the asexual phase of various genera of ascomycetous yeast but in addition also represents the asexual phase of basidiomycetous yeast. (Kregor, 1973).

Candidiasis, an infection caused by Candida organism has wide spread occurrence in women. This may be due to the peculiar nature of the female vulvo-urinary tract and vagina, which opens to the external. Unhealthy lifestyles and habits of women can also predispose them to this infection.

Infections Caused By *Candida Albicans*

Candida albicans is the cause of thrush (Oral Candidiasis). It is an infection found in newborn infants whose normal flora has not become established. It is characterized by a whitish overgrowth of the oral cavity.

This fungus is also responsible for vulvo-vaginal eandidiasis, which is the most common cause of vaginitis. About 75% of all women have experienced at least one episode.

The lesions of vulvo-vaginal candidiasis resemble those of thrush but produces more irritation, severe itching, a thick yellow cheesy discharge and a yeasty odour. *Candidia albicans* can cause diaper rash.

Women very often have vaginitis, or infection of the vagina, which is caused by the flagellated protozoan, *Trichomonas vaginalis* or the yeast *Candida albicans.* The protozoan infection cause a frothy white or yellow fowl-smelling vaginal discharge accompanied by itching. *Candida albicans,* however is a normal organism found in the vagina, it's growth can simply increase beyond

normal under certain circumstances such as women taking the birth control pill or who have been on antibiotics therapy, these increased growth predisposes these women to yeast infection (Johnson & Johnson 1986).

Anti-bacteria drugs do not affect fungi, instead it sometimes causes overgrowth of mucosa tissues because the antibiotics suppresses the normal bacteria flora. Changes in the normal mucosa pH may have a similar effect.

Immuno-suppressed individuals are unusually prone to Candida infections e.g. the areas of the skin of obese or diabetic individuals that have more moisture tend to become infected with fungi. The infected areas become bright red with lesions on the border skin and mucosa. (Case, Funke, and Tortora 1992).

Pregnancy Candidiasis and the Neonate

Hormonal changes contribute to a high rate of candidiasis in pregnant women, (up to 90% of women in third trimester). Apart from the extreme discomfort of the symptoms, *Candida albicans* poses a threat to the newborn. Most cases of neonatal thrush are traced to contact with the mother vagina during birth, and cutaneous infection is another common complication.

Given the prevalence of vaginal infection during pregnancy, screening for *Candida albicans* is yet another essential test.

Symptoms of Candidiasis

Inflammation, painful ulceration and itching of the vagina as well as a yellow-white-milky discharge from the vagina. The most severe cases spread from vagina to vulva to the perineum and thighs.

There is also irritation and yeasty odour, rash affecting inner and outer parts of the vulvas and also burning sensation on the vagina. In the female genital area an excessive Candida proliferation could cause white leaks (similar to "cottage cheese"), burning sensation after urinating and redness in the same area.

In male genital area, Candida causes penis inflammations, many erythematous spots (red), little, velvety, shinning, parts in the penis and characterized by burning sensations and itches.

Causes of Candidiasis

(1) Poor sanitation (irregular bathing)
(2) Using pit toilet
(3) Sharing of water closet with too many people.
(4) Soap cleanse with a non-soap preparation or aqueous cream.
(5) Nylon panty hose etc.

All these factors contribute to the overgrowth of *Candida albicans* thus leading to candidiasis. Also an imbalance can occur, i.e. when the normal acidity of the vaginal changes or hormonal balance changes, Candida can multiply in the body.

Pathology/Transmission of Infection Involving *Candida Albicans*

Mader (1988), in his work discovered that *Candida albicans* produces local infection of the mouth, pharynx, vagina, skin, alimentary canal and lungs and it may also disseminate to internal organs.

Mucus membranes most frequently involved are those of the oral cavity and vagina. Thrush is a white adherent, patchy infection affecting the membranes of the mouth, gum, cheeks, or throat, usually in newborn infants and elderly, debilitated patients. (Umphred, 1995).

Vulvo-vaginal candidiasis, known more commonly as yeast infection, has wide spread occurrence in adult women, especially those who are on antibiotics or oral contraceptives or have diabetes or are pregnant. Candidiasis can be transmitted from person to person through using underwears together and most especially sexually.

Diagnosis of Infection Involving *Candida Albicans* (Candidiasis)

Candida can routinely be isolated from many different sources, such as water, soil, plant materials, and animals, including invertebrates and animal faeces. *Candida albicans* is often isolated from warm-blooded animals including humans where it exists as part of the normal flora of mucous membranes. Not uncommonly, however, this fungus may become pathogenic, causing candidiasis, a disease that may take a number of forms in humans (Hans, 1996).

The various forms of this disease include cutaneous candidiasis, oral candidiasis (thrush), broncho candidiasis, pulmonary candidiasis and vulvo-vaginal candidiasis, it appears a disease that is predisposed by factors such as other disease, physiological disorders, obesity, alcoholism and the use of broad spectrum antibiotics and steroids. These contribute to the creation of condition under which *Candida albicans* becomes pathogenic. Other species of Candida may also cause one or more type of candidiasis.

Because of the relative frequency with which yeast and dermatophytes are isolated, the diagnostic tests used in identification of *Candida albicans* are given below:

Germ Test Tube

Grow the yeast on a peptone-containing medium and inoculate some into a small volume of human or horse serum. Incubate up to 3 hours and look for a curved germ tube developing from one pole of some of the yeast cells. This occurs only with *Candida albicans* and *Candida stellatoidea.*

Chlamydospores Production

Touch a yeast colony with a straight wire and streak it across and through a plate of corn meal agar, incubate at room temperature for 12-48 hours.

Examine the line of inoculation with 16 minutes objective for the *Candida albicans.* They are usually found at the end of the pseudomycelium growing out from the inoculum into the agar.

Diagnosis can also be done, by using a swab stick to collect swab, specimens are cultured on standard media, incubated at 30°C. Identification is complicated by numerous species of Candida and other look-alike yeast. After identification, make a sensitivity plate to know the drugs that will be administered.

Treatment for Infections Involving *Candida Albicans* (Candidiasis)

Treatments consist of topical application of Clotrinazole or miconazole. Ketoconazole has also been used successfully in some difficult cases in which frequent re-occurrences were a problem. There are inserting vagina tablets and anti-yeast cream, which may need to be applied to the vulva. The creams can be used safely in pregnancy but the tablets are best avoided.

Recommendation

Candida species are frequently part of the normal oral and intestinal flora of human body. There are several ways of minimizing its overgrowth.

1. Diets

People should minimise their intake of sugary foods, refined and natural sugar foods like fruits, syrup, juices and honey. The biggest contribution to Candida growth are diary products; foods with high content of yeast or mold (e.g. beverages, cheeses, dried fruits and peanuts) these foods should be avoided to reduce the multiplication of the fungus.

Yogurt that contains *Lactobacillus acidophilus* has been reported to have therapeutic effect in women with vaginal infection caused by Candida.

2. Other beneficial supplements include the use of the following

(i) Caprylic acid
(ii) Flax seed oil
(iii) Garlic
(iv) Cinnamon
(v) Grape fruit extract
(vi) Vitamin C
(vii) Aloe vera
(viii) Magnesium

(ix) Zinc etc

3. Use of Antifungal Drugs

There are different antifungal medicine that have been certified for the treatment of candidiasis. These include: Amphotericin, Fluconazole, Mystatin and Ketoconazole. Like many other prescriptions, these drugs often come with unwanted side effects, but they may be necessary in the case of severe candidiasis.

Conclusion

Treating candidiasis solely with medication may not give desired results other underlying causes require consideration for the effective treatment of the infection. People should be observant of symptoms associated with the disease, as early detection will make treatment easier. For those already with the disease, personal effort should be gear towards improving their digestive process, elimination of certain food, provide the body with the required nutrients to boost the body immune system and restore the normal bowel flora (favourable bacteria in the colon)

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