



A survey on Vulvovaginal Candidiasis or Vulvovaginitis - A Vaginal yeast infection by the fungus *Candida albicans*

Shahla Khan

Center of Basic Sciences, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh.

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ABSTRACT

A survey on fungal diseases shows that vaginal yeast infection is most common fungal disease in Raipur city. A general survey on vaginal infections or urinary tract disorders showed that 75% of ladies suffer from vulvovaginal Candidiasis at some point in their life time. Though Vaginitis is usually not a serious disease but it can be annoying and uncomfortable. The main objective of this paper is to get acquainted with the symptoms, diagnosis, and treatment procedure with some home remedies involved in Vaginitis and to study the main fungus responsible for this disease *Candida albicans*. As 8 out of 10 women in India according to WebMD and other parts of country get this infection and sometimes if not properly diagnosed takes a serious form which is more dangerous. During survey it was found that 40% of women report to their doctors and 20% of women go for self medications. This infection is less common in girls before puberty and post menopausal women. It is common in women of reproductive age group between 20-45 years and therefore reproductive hormones, particularly estrogen, is thought to enhance the proliferation and attachment of *Candida* to the vaginal inner lining. Sometimes however, thrust can occur in post menopausal women if they have uncontrolled diabetes, hormones replacement therapy, severe chronic disease or if they use antibiotics, immunosuppressive agents or Tamoxifer a drug used in breast cancer. Hence it is very important to recognize and differentiate the symptoms and consult your physician. Vaginal yeast infections can be cured with proper diagnosis and treatment. At present time it is not possible to predict reoccurrence of this disease but a comprehensive management plan incorporating medical and immunological care remains the most likely means of providing long term disease control for yeast Vaginitis.

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Introduction

Infection or inflammation of the vagina caused by yeast like fungus *Monilia* or *candida albicans* is called Vaginitis or Vaginal *Candidiasis*. "Vaginitis" is a medical term used to describe various conditions that cause infection or inflammation of the vagina. Vulvo Vaginitis refers to inflammation of both the Vagina and Vulva (the external female genitals) vaginal infections can result from an infection caused by organisms such as bacteria, yeast or virus, as well as by irritations from chemicals in creams sprays or even clothing that is in contact with this area. In some cases, Vaginitis results from organisms that are passed between sexual partners. Vaginitis occurs when the vaginal ecosystem has been changed by certain medications such as antibiotics, hormones, oral contraceptives, high carbohydrates intake specially sugars and alcohols, tropical douches vaginal medications sexual intercourse, sexually transmitted diseases, stress and change in sexual partners. Some vaginal infections are transmitted through sexual contact but others such as yeast infections probably are not. Vaginitis often is caused by infection which creates distress and discomfort and sometimes this type of infection is associated with more serious diseases. Vaginitis in 70-80% of cases are due to *Candida albicans* other organisms include *Candida glabrata*, *Candida tropicalis*, *Candida krusei* and *Candida parapsiosis*. Now Vaginitis *Monilial* is often called *Vaginal Candidiasis*.

Vaginal fungal infections are common in female of age between 20-40 years. According present Survey 40% of women reported a health care, diagnosed vaginal yeast infection during their life time.

According to National Institute of Allergy and infectious diseases. 10-20% of Women have vaginal colonization with *Candida Spp.* and do not go for any treatment. Rural Women Often Complain of Vaginal fungal infections but due to lack of health care centers and lack of Knowledge about fungal infections they do self medications as a result of which they suffer from great deal of misery.

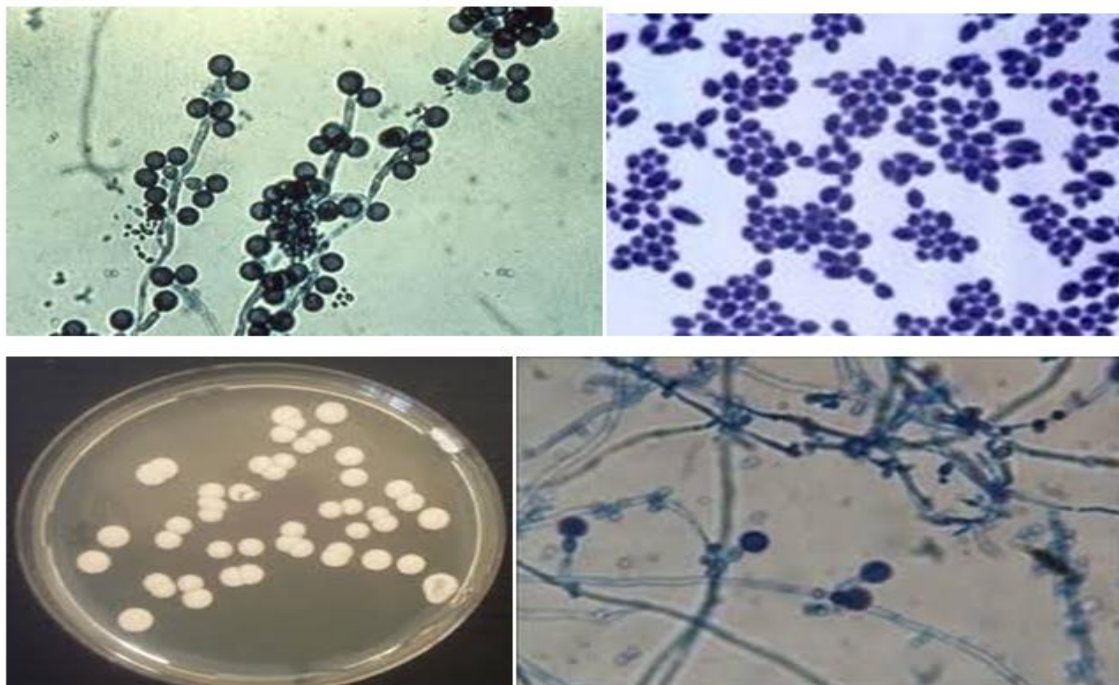
Material and Methods

A survey was conducted on fungal allergic diseases during the year March 2013- August 2013. During the survey it was found that in Raipur city, Vaginal fungal infections are more common in women as compared to fungal allergic diseases like allergic rhinitis, sinusitis, Aspergillosis, Asthma etc. The above mentioned diseases are also due to fungus which occurs due to allergic spores present in atmosphere. But vaginal yeast infections are not due to allergic fungal spores. The fungus *Candida albicans* reside in the vagina naturally but do not cause any harm. When the concentration of *Candida albicans* increases it becomes serious which is known as Vulvocandidiasis. Survey was done randomly in some areas of Raipur city like Avanti Vihar, Rajatalab, Mowa, Dindayal Upadhaya Nagar, Samta colony, Gudihari,

Tele:

E-mail address: khan_shahala@yahoo.com

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Bayaron Bazar, Vishal Nagar, Kanchana, E.A.C colony, Kalinagar, Shantinagar, Shankar Nagar etc. Women of different age group 20 yrs- 60 yrs were interviewed and data collected from them were compiled for study. A general survey on vaginal yeast infections in Raipur city was done by asking questions to ladies residing in different locality of Raipur city. Ladies of different areas were interviewed about the vaginal infections, symptoms, diagnosis, and treatment procedure involved in Vaginitis with some herbal remedies. During our survey it was found that 75% of women have or had vaginal infections but the causal organism was fungus, bacteria, or any other organisms were not known. As only 40% of ladies report to their doctors and confirmed that it was vaginal yeast infections. 20% of ladies due to lack of knowledge about Vaginal yeast infections did not report to any doctor and went for self medications. We have also visited some local Clinics and Hospitals and interviewed some doctors for the symptoms, diagnosis, treatment procedure and medicines prescribed by them in the treatment of vaginal yeast infection was discussed in this research paper. During our survey some medical shops were also visited for medicines and creams mostly prescribed by Doctors for the treatment of vaginal yeast infections and medicines and anti fungal creams largely sold by them were also recorded. Some Pathological labs were also visited and data and micro photographs of fungus were also collected from them. Research paper related to the topic was studied.

Result and Discussions

During our survey it was found that fungal yeast infections are most common among the ladies of age group 20 yrs to 45 yrs. So it has become a part of the research work to know the fungus, *Candida albicans* and study its morphology and discuss in a healthy way, the mode of infection of the fungus. Types of fungal yeast infections, their symptoms, diagnosis, preventive measures, expected outcome, possible complications and the treatment procedure taken by the doctors which is very much important to be known to all the ladies, with some herbal treatments by Garlic.

Vaginal Infections

There are six common types of vaginal infections.

1. Candida or Yeast infection

2. Bacterial Vaginitis

3. Trichomoniasis Vaginitis

4. Chlamydia Vaginitis

5. Viral Vaginitis (The herpes simplex)

6. Non- infectious Vaginitis

Out of above mentioned six Vaginitis, three vaginal infections are most common i.e. yeast, bacterial and viral. Though the causes of Vaginitis were quite different, their symptoms were similar and treatment varies accordingly. Hence in this research article we have discussed only common vaginal infections.

Yeast or fungal infections

The most common type of Vaginitis is caused by one of the many species of fungus known as *Candida*. *Candida* lives naturally in our body in small numbers, including vagina and usually do not cause any harm. However *Candida* thrives in warm, moist, air less environment and under such conditions they grow and multiply rapidly and cause vaginal infections.

Symptoms

Yeast vaginal infection include a thick white discharge that some woman describe as resembling cottage cheese yeast infections can also cause vaginal itching and redness of the Vulva the tips of the external female genital area and vagina.

Bacterial Vaginitis

Along with yeast “friendly” bacteria called *Lactobacilli* live in the vagina. When the number of *Lactobacilli* gets too low, it can trigger a condition called bacterial Vaginitis (BV). The reasons for change in bacterial level is not known but perhaps the normal *Lactobacilli* can be replaced by other infection causing bacteria “*Gardnerella*” is the bacteria most often associated with bacterial Vaginitis. It is the lack of *Lactobacilli* in the vagina and overgrowth of other bacteria (*Gardnerella*) that can cause symptoms of bacterial infections.

Symptoms

A thick or whitish discharge or one that is slippery and clear. It is not likely to itch or burn. A fishy odour may be noticeable, especially during inter course.

Trichomonas Vaginitis

Of the three common vaginal infections, trichomonas vaginitis is the only one that is true sexually transmitted infection commonly called “trich”, it is caused by a single

celled parasite trichomonas vaginalis and is passed from partner during intercourse.

Symptoms

Trichomonas Vaginitis was similar to other vaginal infections burning, irritation, redness and swelling of the vulva, with yellow gray or greenish vaginal discharge possibly with fishy odor. Some women also experience pain during urination.

Causes of vaginal yeast infections

Monillia or the Candida genus of yeast is a naturally occurring micro organism in the vaginal area. Its growth is kept checked by the Lactobacillus bacteria. However if these bacteria cannot work effectively and if there is an imbalance in your system. This will lead to an overgrowth of yeast which causes the symptoms of vaginal yeast infections. Most of the yeast infections are caused by *Candida albicans* a specific strand of yeast that line in small number in healthy vagina, rectum and mouth. When the vagina's hormone and PH balance is disturbed, the organism multiply and cause infections *Monillial Vaginitis* tends to appear before menstrual periods and subsides as soon as the period begins. Factors that may disturb the vagina's balance include pregnancy, diabetes mellitus, antibiotics treatment, oral contraceptives, high carbohydrates intake specially sugars and alcohols, hot weather non-ventilating clothing which increases moisture warmth and darkness, fostering fungal growth, weak immune system, douching, stress and lack of sleep.

Diagnosis of Vaginal yeast infection

1. To diagnose a vaginal infection consult a Gynecologist. Gynecologist will ask you about the symptoms and will ask you some questions related to infections and then perform a physical examination.
2. Urine tests and samples of any discharge are likely being done.
3. Physical examination includes pelvic exam the doctor will inspect your vaginal canal and cervix for any discharge or sores.
4. The doctor will also check the size and location of the uterus and cervix.
5. The doctor will assess if you have pain or tenderness on movement of the cervix and uterus.
6. During the vaginal examination, sometimes, a speculum is also introduced into the vagina to see the cervix.
7. Culture – Swabs will be taken of any discharge to determine if the infection is fungal (yeast), protozoan, bacterial, viral or trichomonas etc.
8. In some cases a pap test will be performed to exclude the possibility of **cervical cancer**. This test is sent to the laboratory and results are usually obtained within a week.
9. A **colposcopy** or biopsy might be recommended if your cervix appears abnormal.

Preventive measures

- Keep your genital area always clean and dry.
- Take showers instead of tub baths.
- Use plain unscented soap.
- Don't douche or use feminine hygiene sprays or powders while being treated.
- Wear cotton under pants or panty hose with a cotton crotch.
- Don't sit around in wet clothing. Change your swim suit immediately after swimming.
- Don't wear tight jeans or panty hose.
- Limit your intake of sweets and alcohol.
- After Urination or bowel movements, cleanse by wiping or washing from front to back (Vagina to anus)

- Lose weight if you are obese as obesity will not allow proper cleaning of genital area.
- If you have diabetes, adhere to your treatment program.
- Avoid use of broad spectrum antibiotics unless absolutely necessary.
- Avoid chemical irritants in deodorized tampons.

Expected outcome

Women complain of vaginal yeast infection could be minimized by educating them with the cause and preventive measures. Vaginal infections (fungal) could be cured with proper diagnosis and treatment. Vaginal infection or Monillial Vaginitis was usually curable with 2 weeks of treatment. But sometimes reoccurrence was quite common.

Possible complication of vaginal infections

Sometimes secondary bacterial infections of the vagina and other pelvic organs may occur.

Treatment of vaginal infection

1. Diagnosis of vaginal infection is usually made on the basis of symptoms and results of urine tests and vaginal cultures. (Samples checked in the Lab.)
2. Treatment is based on the organism causing the infection. Whether it is fungal bacterial or viral or any other microorganisms.
3. Drug therapy will be directed to the specific organism. Depending upon the cause of the infection, health care provider may prescribe vaginal suppositories or antibiotics. (As pills or a shot.)

Medications

1. Antifungal Creams – Clotrimazole cream, Usp, Lotil cream, Tinaactin, Lotrimin AF, OTC medicine clotrimazole, vaginal cream Ointment, Q derma cream, No pile Cream (herbal cream), Tiocanazole.
2. Severe infections need anti fungal medications- Fluconazole (Diflucan) and its itraconazole (sporanox) can be taken orally as a single dose. - L- Cin – 500mg one table for 5 days, Orecitrol 1 spoon in 1 glass of water for 5 days.
3. For less severe infections drugs can be used as a vaginal tablet or cream applicator for 7-14 days some examples are nystalin (Mycostation) which has cure rate of about 75% - 80% Miconazole (Monistal 7, M-zole) and Clotrimazole (Mycelex), Gynelotrimin have cure rate about 85-90%
4. In some cases a single dose of medication has been shown to clear up yeast infections. In other cases a longer course of medication (3-7 days) might be prescribed.
5. For recurrent infection (more than 4 episodes per year), oral Fluconazole and Itraconazole or vaginal Clotrimazole might be needed for six months.
6. In Pregnant Women longer Course of treatment is needed. It is very important to consult with doctor before treatment.

Precautions

Avoid over exertion heat and excessive sweating. Delay sexual relations until symptoms cease.

Diet

Increase consumption of Yogurt, butter milk or sour cream in your diet. Reduce alcohol and sugar intake in your diet.

Conclusion

Vaginitis is a common fungal or yeast vaginal disease in woman. Many of the woman in their life time experience vaginal infection. Some times in severe cases vaginal infection if not treated properly become dangerous. If Vaginitis is diagnosed properly and treated accordingly, all forms of vaginal infections usually respond well to therapy. Many women often mistakenly think they have a "yeast

infection” and treat themselves when infect they have a similar vaginal infection that will not respond to self treatment with over the counter yeast medications. A recent survey in Raipur city showed that 30% of woman has or had vaginal infection and they treat themselves without consulting any doctor. So if you're ever affected by fungal vaginal infection the important thing is not to guess, but to recognize and differentiate the symptoms and visit you're nearby gynecologist. Vaginal infections (fungal) can be cured with proper diagnosis and treatment. At present, it is not possible to predict recurrence of this disease. A comprehensive management plan incorporating medical and immunological care remains the most likely means of providing long term disease control for fungal or yeast Vaginitis.

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