THERE'S A FUNGUS AMONG US:
WHAT EVERY MAN & WOMAN SHOULD KNOW ABOUT GENITAL YEAST INFECTIONS

Baker's yeast. Brewer's yeast. Nutritional yeast. Yeast to make wine. Oooh no! There are so many different kinds. To the bread lovers I say, "hail to the yeast!" However, when we talk about yeast that causes genital infections—*there is no glory there!* This type of yeast is not one desired by anyone. It brings no pleasure, and for some, it brings only frustration and agony.

In general, yeast is a unicellular organism that can be found everywhere. Everywhere includes, but is not limited to: dirt, plants, outer surface of fruit, within the human gastrointestinal tract (mouth, throat, stomach), on the skin, and between those stinky toes *(heard of toe jam—right?).* One can even find yeast organisms in the rectum and genital areas of both men and women. What you may not realize is that, yeast is actually a normal organism within the vagina. It only becomes a problem when the balance is upset and the environment of the vagina becomes more acidic. As a result, the yeast organisms begin to overgrow in relationship to the other normal organisms inhabiting the vagina. *So let's talk more about this fungus among us!*

First let me say, there are many different species of yeast. Some that are harmful to humans and some that are not. The type of yeast used to make bread, beer, and wine (*S. cerevisiae)* is very safe for humans to consume. However, there are numerous species that are pathogenic in humans, causing significant illness and or death.

The Candida species will be the focus of our discussion today, as it can cause significant vaginal infections in women. Candida Albicans, Candida Glabarata, and Candida Tropicalis are just a few of the specific fungal offenders causing vaginitis in women.

80% of women will experience at least one episode of vaginitis (acute irritation and inflammation) due to yeast. With that said, approximately 90% of these infections will be caused by Candida Albicans *(C. Albicans).* The symptoms typically include:

- *a white cottage cheese-like discharge*
- *vaginal itching*
- *vulvovaginal irritation*
    - *swelling, redness, excoriations, fissures inside or outside the vagina*
- *vaginal pain or pain with urination*

An examination to diagnose usually requires a pelvic exam, in which a speculum is placed into the vagina, to obtain a culture of the discharge. Treatment for uncomplicated Candida vaginitis (VVC) is commonly treated with yeast preparations called "Azoles." Many of these can be purchased over the counter (OTC) or some require a prescription. These include such brands as Gynazole, Monistat, Gyne Lotrimin, Terazol. These regiments are usually 80-90% effective in treating VVC. They may require anywhere from one to 7 days of administration. Additionally, studies demonstrate that one preparation is not superior to the other. There is also an oral

medication, Diflucan, which is also effective in treating yeast vaginitis. It requires a prescription from your doctor, usually a gynecologist. Routine follow up is not usually required if symptoms resolve after treatment and do not persist within 2-3 months after completing.

The question I seem to get quite often when I diagnose my patients with a yeast infection is, "So what about my boyfriend? Or my husband? . . .Does he need to be treated?" My answer is usually, "No! —He doesn't." "Why is that my answer?", you may ask. It's because VVC is not considered a sexually transmitted disease. In fact, men developing yeast infections after intercourse with an infected woman is usually rare. Notice I said," usually *rare."* My reason for wording it this way, is because men, specifically those who are uncircumcised, have a higher risk of contracting yeast during sex with infected women. This risk is even higher in men who have difficulty pulling back their foreskin to clean underneath it (diabetics).

The symptoms of a yeast infection affecting men genitalia is similar to that experienced in women. These men will often experience genital itching and balanitis. Balanitis involves:

- *redness & swelling of the penile tip and/or foreskin*
- *discharge leaking from under the foreskin*
- *tightening of the foreskin*
- *genital pain*

These symptoms require a visit to a urologist and full evaluation. Treatment often includes medication (antifungal) and/or surgical intervention, which involves a cut being made in the top of the foreskin to loosen the tightness. It is also important to keep in mind that uncircumcised men can develop balanitis and yeast infections unrelated to sexual intercourse. As a result, it is very important that these men maintain excellent genital hygiene, which include regularly pulling back the foreskin and cleaning underneath it.

So let's get back to talking about VVC. Earlier I discussed the characteristics of uncomplicated VVC infections. Additionally, I already shared that at least 80% of women will experience at least one vaginal yeast infection in their lifetime. Well, what about the women who experience multiple VVC infections within a year? Actually, anyone who is diagnosed with four or more VVC infections within a year, meet the criteria for what is called recurrent vulvovaginal candidiasis (RVVC). Although these episodes can still involve the C. Albicans species, other yeast species, specifically non-albicans organisms, can be the culprits. C. Glabarata is a common one, however many women with nonalbicans species of yeast often have very little to no symptoms. Therefore, the challenge, is knowing when to treat in women with recurrent VVC who test positive for non-albicans species. As a result, it is very important that all other causes for the reported symptoms, are excluded. According to the CDC, women with RVVC secondary to nonalbicans yeast is approximately 10-20%. <5% of women experience RVVC, in general.

Treatment for RVVC often involves longer treatment regiments of 7-10 days with oral or vaginal preparations, followed by weekly treatment for 6 months with oral medication. Boric acid intravaginal may also be administered for daily for two weeks. If failure persist, ask your

gynecologist for a referral to see an infectious disease or vulvovaginal specialist. The causes of RVVC are still poorly understood. As a result, management can be very challenging and frustrated for affected patients. Although long term treatment does a good job resolving symptoms, 30-50% of women develop recurring symptoms shortly after the cessation of their maintenance or suppression regiment. Those at higher risk for VVC & RVCC include individuals who are pregnant, on steroid treatment, diabetic, have increased estrogen (HRT), or who are HIV positive. Diet and nutrition also seem to have some association with VVC infections. Those who consume increased amounts of refined sugar may have increased episodes.

Finally, there have been some associations with probiotics, vaginal or oral yogurt, and drinking 8 oz. of water with 2 tablespoons of vinegar (3x/day) with VVC prevention. Additionally, wearing cotton underwear, changing sweaty clothes after working out, and removing wet bathing suits after swimming are other recommended preventative measures.

For more information about complicated and uncomplicated VVC, please visit cdc.gov and search 2015 treatment guidelines for yeast infection of VVC. Additionally, there is another great article, although old, which I have posted on my Facebook page about Chronic Vulvovaginal Candidiasis.