

Fungal Skin Infections

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Definition

A person's skin can become infected by a variety of fungi. When that happens, the person has a fungal skin (cutaneous or superficial mycoses) infection. Another word for fungal disease is mycoses. These fungi "live only in the dead, topmost layer (stratum corneum) and don't penetrate deeper. Some fungal infections cause no symptoms or produce only a small amount of irritation, scaling, and redness. Other fungal infections cause itching, swelling, blisters, and severe scaling....fungal infections on one part of the body can cause rashes on other parts of the body that aren't infected ...[which are caused by] allergic reactions to the fungus" (The Merck Manual of Medical Information 2000)

Introduction

In what Noble (1998) calls "among the most common skin diseases", superficial fungal infections affect "...millions of people around the world" (Noble 1998).

Superficial fungal infections (superficial mycoses) can be spread easily through direct contact with infected people, animals, clothing, brushes, and other objects. The fungi tend to grow in moist parts of the body where the skin comes together such as between fingers, toes, under breasts, and in the genital area. Overweight people have more places where skin comes together and are thus more at risk of developing fungal skin infections.

Fungal skin infections come in different forms and show up in different parts of the body, for example:

- foot fungal skin infections (tinea pedis, also called athlete's foot) "...is the most common fungal infection in the general population" (Kovacs 1995)
- scalp fungal skin infections (tinea capitis, also called ringworm)
- groin and buttocks fungal infection (tinea cruris also called jock itch)
- beard area fungal skin infection (tinea barbae)
- hand fungal skin infection (tinea manuum)
- nail fungal skin infection (tinea unguium)
- skin fungal infections (tinea corporis) for "skin other than bearded areas, scalp, groin, hands or feet" (Noble, 1998).
- skin discoloration fungal infection (tinea veresicolor) "...a fungal infection that causes white to light brown patches on the skin." This type of fungal skin infection involves "...groups of yeasts." (The Merck Manual of Medical Information 2000).
- moist areas of the body (such as the vagina, penis, corners of the mouth, nails, skin folds, anus, mouth) fungal infection (superficial candidiasis also called yeast infection)

"Tinea" is another word for ringworm, which is called different names depending on the part of the body where it is found. Tinea "...causes an itchy, red, scaly patch which spreads outward as it grows. Hairs in the area may fall out or break. Sometimes the skin may crack and become secondarily infected with bacteria. Spreading is by brushes, clothes, and other personal contact." (Hoffmann, No date).

Yeast infection (candidiasis) is caused by a yeast called candida that is "...normal resident of the digestive tract and vagina that usually causes no harm. The environmental conditions are particularly favorable (for example, in warm,

humid weather) or when a person's immune defenses are impaired, the yeast can infect the skin". (The Merck Manual of Medical Information 2000)

The American Academy of Family Physicians has a useful article called "Diagnosis and Management of Common Tinea Infections" by Sara Noble and Robert Forbes (1998) that includes photographs of the different types of tinea infections. The article is available at <http://www.aafp.org/afp/980700ap/noble.html> (such as syphilis and fungal infections.)

Diagnosis

It takes a doctor to diagnose a fungal skin infection and to figure out what type of fungi is causing the infection. If the rash and location on the body look like a fungal skin infection, the doctor may take a small skin sample, and have laboratory tests completed to figure out what type of fungi, if any, is causing the rash.

Prevention and Treatment

The methods to prevent fungal skin infections relate to general wellness practices. As people who are overweight are more at risk of fungal skin infections, eating sensibly and routine exercise can have the desired result of maintaining ideal weight – not to mention better overall health. Another helpful wellness practice is taking precautions to avoid infection such as regular hand washing. Drying hands after getting them wet is another good practice as people whose hands are always wet are more at risk for fungal skin infections. Changing clothes regularly as well as avoiding tight fitting clothing can promote wellness. Also, changing from sweaty clothes to dry ones, such as socks, can be helpful. People can use foot powders to absorb sweat and avoid tight fitting shoes that are made of materials that do not "breath". Kovacs (1995) notes that excessive perspiration is the most common predisposing factor for fungal infections of the body ... in adults."

In addition to these wellness practices, doctors may use a variety of treatments targeted to the specific fungi diagnosed and what part of the body is affected. Examples of treatment can include: antifungal shampoo, foot powders, topical antifungal creams and lotions, or antifungal drugs taken orally. Kovacs (1995) states that, "Oral agents are also used in patients who are diabetic or immunocompromised or who respond poorly to topical antifungals."

Emergency Situations – What can go wrong?

People who are elderly and others with poor blood flow to the feet can get a bacterial infection if athlete's foot is not successfully treated before the skin begins to crack. Individuals taking antibiotics or who are diabetic are more at risk for candidiasis. People who are overweight are more at risk for all types of fungal skin infections as are individuals with weakened immune systems.

If a fungal infection becomes systemic, Gotzsche (2000) reports that it can be "...an important cause of morbidity and mortality in cancer patients, particularly those with neutropenia."

As with any medication, antifungal medications can have drug interactions and side-effects that cause discomfort.

Conclusion

A person's skin can become infected by a variety of fungi from contact with an infected person, animal, or object. People who are elderly, diabetic, overweight and who have compromised immune systems are more at risk for fungal skin infections. These fungi are classified by what part of the body they affect. Two basic types of fungal skin infection are ringworm (tinea) and yeast (candidiasis). Diagnosis is based on the rash, what part of the body is affected, and laboratory testing. Practical wellness practices can reduce the chances of getting or continuing a fungal



skin infection. Treatment includes different types of medication targeted to the specific part of the body or type of fungi. People take this medication orally or apply it onto the affected area as instructed by the doctor.

Direct Support Professionals can help by:

- learning about the symptoms and treatment of fungal skin infections including what the various infections look like
- educating about and encouraging wellness practices discussed above such as changing socks when they are sweaty and avoiding contact with infected materials and people
- assuring that the person diagnosed with a fungal skin infection is educated about that infection and wellness
- supporting the person to remember to do relevant wellness activities
- gathering base-line information about the person (such as when, where on the person's body and related to what conditions a rash appears)
- learning about and reporting potential side-effects of medication for fungal skin infections

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