INTRODUCTION

Onychomycosis is the medical term for a nail infection caused by a fungus. There are many different species of fungus that can cause onychomycosis. Once an infection develops, it can be difficult to eliminate. The incidence of fungal infections increases with age. Risk factors include: nail trauma, occlusive footwear, incomplete drying of feet after showering, swimming, athlete’s foot, psoriasis, diabetes, immunodeficiency and living with people who have fungal nail infections. Fortunately, for most people, these infections are primarily a cosmetic concern. However, they can cause pain in more severe cases. Patients with diabetes have an increased risk of developing a bacterial infection.

SKIN FINDINGS

There are four patterns of nail infections. More than one pattern may occur simultaneously.

1. Distal subungual onychomycosis is the most commonly seen pattern. The distal nail (free edge at the top of the nail) gets infected with fungi and as a result, turns white to yellow in color. This discoloration eventually spreads to the entire nail. The infection also causes the nail to separate from the nail bed.

2. Proximal subungual onychomycosis is the most commonly seen pattern in immunocompromised patients. The fungi invade the proximal-cuticle area and infect the nail from below. The surface of the nail remains intact. However, the infection causes the nail to separate from the nail bed.

3. White superficial onychomycosis is caused by surface infection of the nail plate. This often starts as dull, white spots on the nail surface and eventually, the entire nail becomes soft, dry and powdery. However, the nail plate does not separate from the nail bed.

4. Candidal onychomycosis is a nail-plate infection. It is seen primarily in patients with the rare disease chronic mucocutaneous candidiasis. The nail plate turns yellowish-brown in color and thickens. This condition usually involves all the fingernails.

TREATMENT OPTIONS

Topical Medications

Traditional topical antifungal creams/lotions are generally ineffective in the treatment of nail infections and are not recommended.

One topical prescription medication has been approved for the treatment of fungal nail infections. The medication is Penlac Nail Lacquer (ciclopirox topical 8% solution). Overall, Penlac has a low rate of effectiveness. However, it can be a treatment option in patients who are at high risk for complications with the use of oral medications.

Oral Medications

Oral medication therapy has the highest rate of effectiveness, ranging from 50% to over 80%. However, treatment failure and recurrences are not uncommon. These medications tend to have the highest success rate when used to treat fingernails or younger patients. Lamisil (terbinafine) is generally considered first line treatment. It has a higher rate of effectiveness when compared to other oral medications, fewer serious side effects and fewer medication interactions. Patients with infected fingernails take 250 mg daily for six weeks and those with infected toenails take 250 mg daily for twelve weeks. The other oral medications approved for the treatment of onychomycosis include: Sporanox (itraconazole) and Diflucan (Fluconazole). Routine blood tests are recommended for patients being treated with daily dosing of oral medications, as they can cause liver problems. Improvement will continue after the medication is completed and it can take up to 12 months to fully determine the results. These medications can be quite expensive and are not a covered medication at McKinley Health Center.

Surgical removal of the nail plate is an option. However, recurrence rates are high.
GENERAL FOOT HYGIENE

- Wash your feet every day. Use warm (not hot) water.
- Dry feet and in between toes well.
- Wear clean socks and change them daily.
- Wear properly fitted shoes.
- You may use a moisturizer, but do not put it between your toes.

References

UpToDate website (online subscription), http://www.uptodate.com/index

If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: Dial-A-Nurse at 333-2700

If you are concerned about any difference in your treatment plan and the information in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: http://www.mckinley.illinois.edu