A comprehensive guide to common pediatric skin infections: Diagnosis and management.

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Introduction

Skin infections in children are common and can range from mild, self-limiting conditions to more severe infections requiring medical intervention. Pediatric skin infections can be caused by a variety of pathogens, including bacteria, viruses, fungi, and parasites. Early diagnosis and proper management are essential to ensure optimal outcomes and to prevent complications. This comprehensive guide will explore the most common pediatric skin infections, their diagnosis, and management strategies [1].

Impetigo is one of the most common bacterial skin infections in children, primarily caused by *Staphylococcus aureus* and *Streptococcus pyogenes*. It is highly contagious and often occurs after a skin injury or in conditions of poor hygiene. The infection typically begins as small, red sores that quickly rupture, ooze fluid, and form a yellow-brown crust [2].

These sores are often found around the mouth, nose, and other exposed areas of the body. Impetigo is usually diagnosed based on clinical presentation. In some cases, a bacterial culture or Gram stain may be taken to confirm the pathogen. For localized cases, mupirocin or fusidic acid ointments are commonly used. In more extensive cases or if the infection does not respond to topical treatment, oral antibiotics such as cephalexin or dicloxacillin may be prescribed [3].

Keeping the affected area clean and avoiding touching or scratching the sores is essential to prevent spreading the infection. Towels, clothing, and bedding should not be shared to prevent transmission. Fungal infections, such as tinea corporis (ringworm), tinea capitis (scalp ringworm), and tinea pedis (athlete's foot), are caused by dermatophytes, a group of fungi that infect the skin, hair, and nails [4].

Diagnosis is typically based on the characteristic appearance of the lesions. A skin scraping can be examined under a microscope to identify fungal elements, or a culture can be performed for confirmation. For localized tinea infections, creams or ointments containing clotrimazole, miconazole, or terbinafine are effective. For tinea capitis or widespread infections, oral medications such as griseofulvin or terbinafine are used [5].

Keeping the skin clean and dry, especially in areas prone to fungal infections (like between toes), is crucial for prevention. Fungal infections are highly contagious, so items like hats, combs, and towels should not be shared. Chickenpox is caused by the varicella-zoster virus and is a common childhood infection, particularly before the advent of the varicella vaccine [6].

The characteristic rash begins as small red spots that develop into fluid-filled blisters, which eventually crust over. The rash is usually accompanied by fever, fatigue, and irritability. Chickenpox is diagnosed based on the clinical presentation of the rash and history of exposure to the virus. In atypical cases or in immunocompromised children, laboratory tests such as PCR or direct fluorescence assays can be used to confirm the diagnosis. Antihistamines can help with itching, and acetaminophen (Tylenol) can reduce fever [7].

In severe cases or in immunocompromised children, antivirals such as acyclovir may be prescribed to shorten the course of the illness. The varicella vaccine is highly effective in preventing chickenpox and is now part of routine childhood immunizations. To prevent the spread of the infection, children should be kept home until all lesions have crusted over. HFMD is caused by enteroviruses, most commonly the coxsackievirus A16, and is highly contagious, spreading through direct contact with respiratory droplets, fecal matter, or contaminated surfaces [8].

The disease presents with fever, sores in the mouth, and a rash on the hands, feet, and sometimes the buttocks. The rash typically appears as red spots, sometimes with blisters, and may be painful or itchy. HFMD is diagnosed based on clinical signs, particularly the combination of oral lesions and rash. In uncertain cases, viral culture or PCR testing may confirm the pathogen. There is no specific antiviral treatment for HFMD. Symptom management includes pain relievers (acetaminophen), plenty of fluids to prevent dehydration, and soothing mouth rinses for mouth sores [9].

Frequent handwashing and disinfecting surfaces can help prevent the spread of the virus. Children with HFMD should stay home from school or daycare until they are no longer contagious (typically when fever subsides and blisters scab over). Scabies is caused by the *Sarcoptes scabiei* mite, which burrows into the skin and causes intense itching and a rash. The hallmark symptom is severe itching, especially at night. The rash typically appears as small red bumps or blisters, often in areas such as the wrists, elbows, armpits, and genital

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area. Skin may show signs of scratching, with excoriations and crusting [10].

Conclusion

Pediatric skin infections are a common concern for parents and caregivers, but with proper diagnosis and management, most conditions can be effectively treated. Early recognition, appropriate treatment, and preventive measures, such as maintaining good hygiene and avoiding sharing personal items, play a crucial role in managing these infections. By working closely with a healthcare provider, parents can help ensure that their children receive the best care possible, minimizing discomfort and preventing the spread of infectious conditions.

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