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SCABIES

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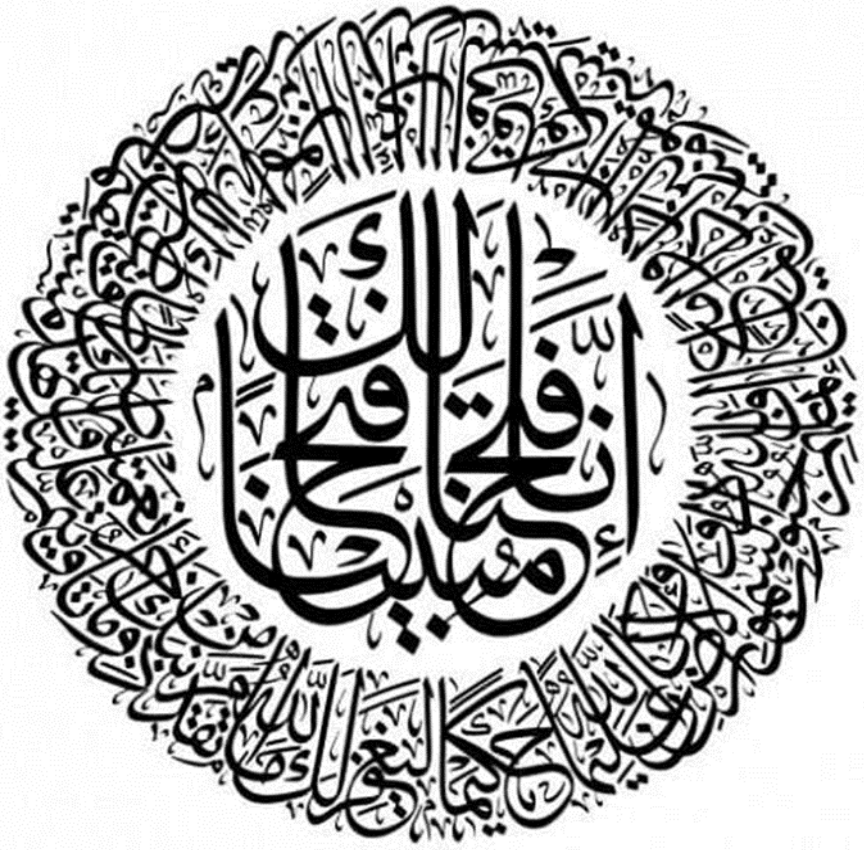
بسم الله الرحمن الرحيم



إِنَّا فَتَحْنَا لَكَ فَتْحًا مُبِينًا ۞ لِيَغْفِرَ لَكَ اللَّهُ مَا تَقَدَّمَ مِنْ
ذَنْبِكَ وَمَا تَأَخَّرَ وَيُتِمَّ نِعْمَتَهُ عَلَيْكَ وَيَهْدِيَكَ صِرَاطًا مُسْتَقِيمًا ۞
وَيَنْصُرَكَ اللَّهُ نَصْرًا عَزِيزًا ۞ هُوَ الَّذِي أَنْزَلَ السَّكِينَةَ فِي قُلُوبِ
الْمُؤْمِنِينَ لِيَزْدَادُوا إِيمَانًا مَعَ إِيمَانِهِمْ وَلِلَّهِ جُنُودُ السَّمَاوَاتِ وَالْأَرْضِ
وَكَانَ اللَّهُ عَلِيمًا حَكِيمًا ۞

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Abstract

Scabies is a contagious skin infestation caused by sarcoptes scabiei mite. With an estimated 300 million cases per year, it causes significant global morbidity. Although it can affect people of all socioeconomic backgrounds, people who live in poverty or in overcrowded conditions are at a much higher risk of developing scabies. Due to a lack of local expertise, it is possible that scabies will not be identified, resulting in delayed diagnosis and inadequate treatment of cases and contacts. Many Indigenous communities in high-risk areas are disproportionately affected by scabies. Scabies is also more common in young children, the elderly, and immunocompromised people. Scabies outbreaks in institutions have also been reported. Scabies, in addition to an extremely itchy rash, can cause secondary bacterial infections and related complications, as well as stigma, depression, insomnia, and significant financial costs. Topical antiscabies creams and lotions remain the mainstay of treatment, but oral ivermectin has also been shown to be effective in some cases. Asymptomatic and symptomatic household members should all be treated at the same time.

1. Introduction

Scabies is a contagious skin disease caused by a mite infestation. Sarcoptes scabiei is a mite that burrows into the skin and causes severe itching. This itching is relentless, especially at night. Because skin-to-skin contact transmits the infectious organism, household members and skin contact relationships pose the greatest risk. The World Health Organization (WHO) designated scabies as a neglected tropical disease in 2009, and it is a major health concern in many developing countries. Individuals who have been infected must be identified and treated as soon as possible because a misdiagnosis can lead to outbreaks, morbidity, and an increased economic burden [1, 2].

2. Epidemiology

The estimated worldwide prevalence of scabies is three hundred million infected individuals each year [3, 4]. It is a major health concern in many developing countries, and the World Health Organization designated it as a neglected skin disease in 2009 [4].

Scabies is highly prevalent in the following areas: Africa, South America, Southeast Asia, and Australia. The high prevalence is linked to poverty, poor nutritional status, homelessness, and poor hygiene [3, 5].

It is more common in children and young adults. Cases in these countries have a high morbidity rate owing to complications and secondary infections. Abscesses, lymphadenopathy, and post-streptococcal glomerulonephritis are examples of these. In industrialized countries, sporadic outbreaks of scabies can occur in schools, care homes, acute long-term care, hospitals, prisons, retirement residences and crowding areas [3, 6, 7].

3. Pathophysiology

Adult female mites dig burrow tunnels 1 to 10 millimeters long within the epidermis's superficial layers and lay two to five eggs per day. The mites die after 30 to 60 days, and the eggs hatch after about two to five days. It is important to note that not all treatment options are capable of penetrating the eggs stored within the skin [3, 5, 8].

Papules may appear within two to five weeks of an infestation. These papules are tunnel or comma-shaped and range in size from a few millimeters to one centimeter. In most cases, infestations occur under thin skin in areas for example the interdigital folds, areolae, navel region, and the shaft of the penis in men [3, 5].

4. Etiology

Sarcoptes scabiei var. Hominis is the mite that causes scabies. It is an arthropod of the Acarina order. It is a member of the Arachnida class, the Astigmata order, and the Sarcoptidae family [3, 9, 10].

The scabies mite's (Scabies scabiei var. hominis) life cycle begins with the pregnant female burrowing into the human epidermis and laying two to five eggs per day. Larvae emerge two to five days later and form new burrows. The larvae mature in 10–14 days, mate, and the cycle begins again [11-14].

4.1. Mode of transmission

Direct skin-to-skin contact is the mode of transmission. Human scabies mites can survive in the environment, outside of humans, for 24–36 hours in normal room conditions (21°C and 40–80 percent relative humidity); during this time, they remain a source of infestation. Although indirect transmission via clothing, bedding, and other fomites has been proposed, it has proven difficult to prove experimentally [11-14].

5. Risk factors

Scabies prevalence is higher in children and sexually active people than in the general population. Patients with impaired sensory perception due to conditions such as leprosy, as well as those with compromised immune systems due to conditions such as status post transplantation, human immunodeficiency virus (HIV) disease, and the elderly, are particularly vulnerable to the crusted variant [15].

A 2009 study in a poor rural community in Brazil discovered the following major risk factors for scabies in that community [16]:

1. Young age
2. Presence of many children in the household
3. Illiteracy

4. Low family income
5. Poor housing
6. Sharing clothes and towels
7. Irregular use of showers
8. Illegal sex

6. Presentation

Scabies appears clinically in three forms: classic, nodular, and a contagious crusted variant known as Norwegian scabies [3, 9, 10]:

1. The classic form of scabies may have a population of mites ranging from 10 to 15 organisms on an individual. In cases of classic scabies, mites typically transmit to a different human host after ten minutes of skin-to-skin contact. Transmission of the disease can also occur through fomite transmission through clothing or bed sheets. This form of scabies is characterized by burrows and complicated by hyperkeratotic plaques that can be diffuse or localized to the palms, soles, and under fingernails [3, 9, 10].

Figure 1. Scabies burrows (5).

2. The nodular form of scabies is a variant of the classic form. This form is characterized by erythematous nodules with a preference for the axilla and groin. The nodules are itchy and are thought to be a hypersensitivity reaction to the female mite [3, 9, 10].
3. Norwegian scabies, the crusted variant, can have millions of mites on a single individual. Crusted scabies occurs in immunocompromised patients due to immunosuppressive therapy, diabetes, human immunodeficiency virus (HIV), advanced age, neglection and poverty. Infection can occur in this high density

with only brief contact with patients and contaminated materials. The amount of infesting mites is usually determined by the host's immunological condition as well as the extent of spread, number of mite usually more than 1000 [3, 9, 10].

Figure 2: Crusted scabies (5).

7. Differential Diagnosis

Scabies' clinical presentation may resemble infections caused by other organisms such as bacteria, fungi, parasites, and viruses. Scabies is frequently mistaken for eczema, dermatitis prurigo nodularis, or lupus erythematosus [17, 18].

8. Diagnosis

The clinical diagnosis of scabies is usually based on a history of pruritic rash that is worse at night and appears in specific locations, especially if similar symptoms occur in other members of the household. Although the presence of burrows often aids in the diagnosis, they are uncommon. Other methods for determining a definitive scabies diagnosis include [19, 20]:

1. Scraping of the skin (scraping an oil-covered scalpel blade across a burrow and examining the sample microscopically), to see mite, its parts and sebala, these are confirmatory tests.
2. A test with burrow ink (covering a lesion with ink and removing it with alcohol leaves ink tracking in the burrows).
3. Dermatoscopy (direct visualization of magnified skin). This option is still impractical in many places, particularly in remote communities.

9. Treatment

Scabies can be treated in a variety of ways. Evidence suggests that when medications are taken as prescribed, the efficacy of conventional treatment options is comparable. Topical permethrin, crotamiton, and systemic ivermectin are examples of these. Adverse reactions to these medications are uncommon [5, 8].

Permethrin 5 percent cream is the treatment of choice, is an effective and widely used topical insecticide. The cream is typically applied once a week for two weeks (total of two treatments). However, scabies resistance, poor patient compliance, and rare allergic reactions are infrequently associated with this treatment [4, 5].

Oral ivermectin is another option, though the Food and Drug Administration in the United States has not approved it for scabies treatment. It is only given to people over the age of ten and only once. If symptoms persist, a second dose is administered two weeks later. Ivermectin is scabistatic in two doses; the second treatment kills mites that have hatched since the first treatment. Because of its convenience, ease of administration, favorable side effect profile, and safety, oral ivermectin is recommended. Compliance is higher with this treatment modality than with topical permethrin, and the tablet formulation of ivermectin reduces the possibility of misuse or insufficient application, which can occur with topical permethrin [4]. When it comes to treating scabies outbreaks, systemic ivermectin surpasses topical permethrin. Providing adequate treatment is particularly important when it comes to the treatment of people who live in tight proximity, such as homeless shelters, prisons, and healthcare facilities [8].

Topical lindane, 1%-10% precipitated sulfur, malathion, and topical ivermectin are some other options. Treatment options may be limited in those who have S. scabiei resistance or attributable to cost, availability, or potential toxicity, especially in pregnant women and children [5].

Treatment failure or recurrence is common, and isolating the cause can help prevent further infection and limit community outbreaks. Reasons for treatment failure include failing to treat close contacts at the same time, failing to decontaminate beddings and garments at the time of treatment, and failing to adhere to the treatment regimen.

Ivermectin-resistant Sarcoptes mites may cause treatment failure in crusted scabies. Moxidectin is the recommended treatment for ivermectin resistance [9].

Table 1 Scabies management in Canada (20).

Treatment	Application period	Repeat	Age restrictions	Caution(s)	Other comments
5% permethrin cream (Nix Dermal Cream, Kwellada-P Lotion)	Leave on for 12–14 h, followed by bathing	7 days	>3 months of age		Consider as first-line treatment
10% crotamiton lotion/cream (Eurax Cream)	24 h	May be repeated in 24 h; wash off 48 h after last application		Skin irritation and contact dermatitis	Consider as second-line treatment
Sulphur (8%–10%) precipitated in petroleum jelly (compounded)	Daily for 3 consecutive days	No	Safe in pregnancy and for infants		Effective but not commonly used due to messy application and odour
Benzyl benzoate 25% in adults, 10%–12.5% in children	24 h	May be repeated 1 day apart	Caution in pregnancy		
1% Lindane cream	Apply 8–12 h for adults, 6–8 h for children, followed by bathing	Only if new mites or papules after 7 days of treatment	Use with caution in small children	Associated with neurotoxicity, ataxia, tremors and	Consider as second-line treatment only

				bone marrow suppression	
Ivermectin (oral) for outbreak (Stromectol, Mectizan)	Single dose oral 200 mcg/kg	May need to be repeated in 2 weeks	Safety not established in infants <15 kg, pregnant or lactating women		
Ivermectin (oral) for crusted scabies (Stromectol, Mectizan)	Single dose oral 200 mcg/kg	Multiple repeat doses with keratolytics and consider combination with 5% permethrin	Safety not established in infants <15 kg, pregnant or lactating women		

10.Prevention

Even if they are asymptomatic or show no signs of infestation, all household members and close contacts over the age of two months and who are not pregnant should be treated for scabies. Pets do not require medical attention. Detailed instructions for treatment and environmental control measures should be given both verbally and in writing [21].

Instruct patients to leave clothing, bed linens, and towels used in the previous week for two days the mites die. All carpets and upholstered furniture should be vacuumed, and vacuum bags should be discarded immediately. Individual morbidity and the risk of scabies spread can be reduced by improving living conditions and developing local expertise in Indigenous communities [20, 22, 23].

11.Prognosis

A good prognosis can be achieved by treating the patient with close contacts and household members. Patients are often expected to recover completely with proper care.

Without treatment, the infection may spread to other members of the community, resulting in a population outbreak [5].

12. Complications

Sustained itching, insomnia, secondary bacterial infection, and outbreaks of the disease in the community are all possible complications of a scabies infection [4].

13. Conclusions

Human scabies, a treatable condition, appears to be prevalent and causes significant suffering. Accurate diagnostic tests, increased treatment convenience and acceptability, and improved understanding of epidemic outbreaks remain top priorities in achieving global control measures to reduce the impact of scabies on human populations.

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