

## SCABIES IN CHILDREN

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### SUMMARY

Scabies is a persistent, contagious pruritic skin eruption caused by cutaneous infestation with the mite *Sarcoptes scabiei*. Usually parents and children are infected at the same time, because scabies infestations are transmitted mostly by direct contact. The peak incidence of scabies in children, which have been treated at the University Department of Dermatology in Ljubljana from 1990 to 1997, was observed from 1993 to 1995 with approximately 163 cases per year. History, clinical features, and laboratory examinations are important for diagnosis. Clinical features are different in infants and in children, because infant's skin is still immature. The lesions in infants are of a more exudative character. They can be detected almost everywhere on the skin, important sites are soles, palms, face and scalp. Variants of scabies, differential diagnosis and treatment of scabies in children are reviewed. We should consider the diagnosis of scabies whenever the patient has persistent papulovesicular lesions, the itch worsening at night, and there are additional cases involving other persons at home.

### KEY WORDS

*scabies, children, infants, epidemiology, clinical features, differential diagnosis, treatment, Slovenia*

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### WHAT IS SCABIES?

It is a persistent, contagious pruritic skin eruption caused by cutaneous infestation with the mite *Sarcoptes scabiei* (1,2). The female burrows into the stratum corneum of epidermis, lays her eggs, and dies after one month. The eggs hatch, the new generation matures in 14 days, when the cycle is repeated. The mite and its excrements cause severe pruritus (2).

### THE INCIDENCE OF SCABIES IN SLOVENIA

Reliable data on the incidence of scabies in Slovenia are available since 1971 due to the well-organized dermatological care and the reporting system. The peak incidence was reached in 1972 (8646 cases). There was a second peak in 1982 (4412 cases). The yearly incidence of over 1000 cases still

persists. It seems that the majority of cases have been imported by guest workers from certain regions outside Slovenia (3).

The incidence of scabies in children, which have been treated at the University Department of Dermatology in Ljubljana from 1990 to 1997, is shown in figure 1. The peak incidence is seen from 1993 to 1995 and is about 163 cases per year.

## HOW IS SCABIES RECOGNIZED?

History, clinical features, and laboratory examinations are important for diagnosis (2,4). Patients complain of severe and persistent itch, worsening after bathing and at night. Frequently a whole household is infested (2,4).

Local hypersensitivity to the female scabies mite is assumed to cause a release of inflammatory mediators, giving rise to an itching rash. The rash consists of pruritic papules, which may be superficially excoriated. Later secondary infection with pustule formation and crusting is common (1,2).

Clinical features are different in infants and in children. The sites of predilection in children and adults are located in interdigital folds of the hands, volar sites of wrists, extensor sites of elbows, axillary areas, central abdomen (periumbilical area), areola of the nipple in females, genitalia especially in boys, buttocks, and the anterior side of thighs (1,2,4).

The infant's skin is still immature; therefore the lesions are of a more exudative character. We can find them almost everywhere on the skin, important sites are soles, palms, face and scalp (5-7).

Demonstration of the acarus is made by scraping the burrows to reveal the female mite, the eggs or faecal material under the microscope. All cases of presumed scabies in which the acarus has not been identified and which do not respond to therapy, should be reassessed and a biopsy considered (1,2,4).

## VARIANTS OF SCABIES

Brownish-red nodules develop as a consequence of foreign-body type granulomatous inflammation in cases where the infestation is of a long duration. They are seen on covered parts of the body (axillary areas, shoulders, genitalia, and buttocks...) and usually persist for months after therapy (1,2,8).

Clean scabies can arise in those who observe a high standard of hygiene with severe and persistent

itch, though there are only minimal skin lesions. In such cases the diagnosis is rather difficult, therefore laboratory examinations must be repeated (1-3).

In patients who are immunocompromised, mentally retarded, or have an impaired sensibility the Norwegian scabies can develop. Additionally to typical lesions erythematous plaques with scales and crusts are present. Sites that are usually spared are also involved. Such patients are very contagious due to the large number of mites (1,2,5,6,8).

## DIFFERENTIAL DIAGNOSIS

The most common misdiagnoses of scabies in infants are:

- impetigo of palms and soles
- dermatitis atopica
- dermatitis seborrhoica
- incontinentia pigmenti in the first vesiculobullous stage
- histiocytosis X

The most common misdiagnoses of scabies in children are:

- contact dermatitis
- impetigo contagiosa
- strophulus infantum
- ictus insecti
- juvenile dermatitis herpetiformis
- pediculosis corporis
- rare cases of animal scabies (1,2,4,5).

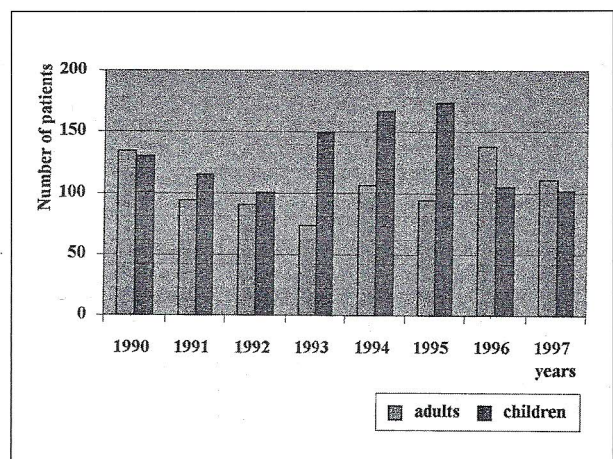


Figure 1. The incidence of scabies in children and adults treated at the University Department of Dermatology in Ljubljana from 1990 to 1997.



Figure 2. Exudative lesions everywhere on the skin in an infant.



Figure 3. Lesions on the soles in an infant.



Figure 4. Lesions on the cheeks, the trunk and the axillary area.

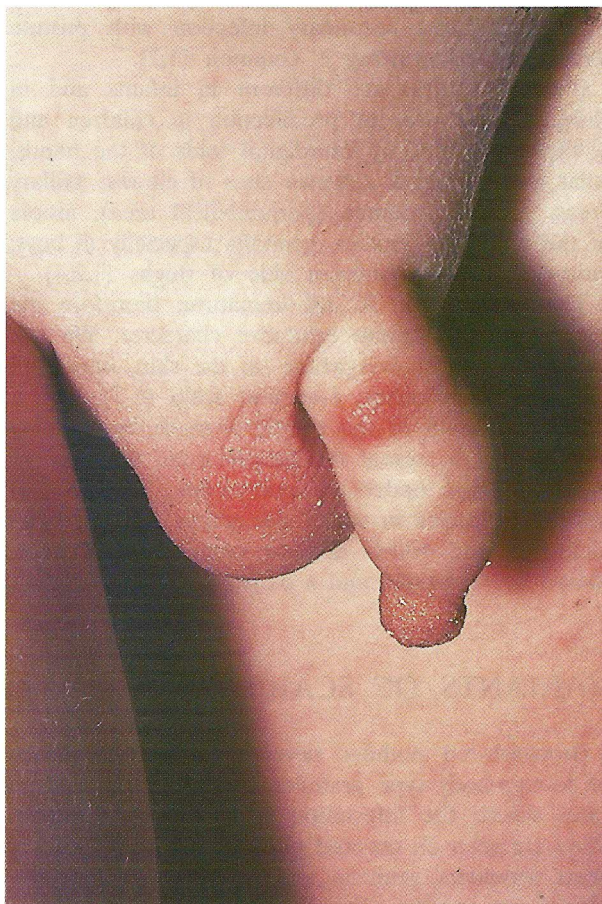


Figure 5. Nodules on genitals of an infant.

## TREATMENT

The most useful acaricides are 1% gamma benzene hexachloride – lindan, malathion, 5% permethrin and 10% krotamiton. Lindan should be used with precaution to avoid its excess penetration into the skin and should not be used to treat infants, young children, and pregnant or lactating women (9). Sulphur preparations, such as 5% – 20% sulphur ointments, permethrin, and krotamiton are recommended for infants. It is essential that the entire body from the neck to the soles be treated. This procedure can be repeated after 24 hours once or twice (for krotamiton 5 – 7 days). 24 hours after the last application the patient should bathe, and all clothing and bed linen should be washed (2,4,5,9).

All household and other close contacts should be

treated at the same time as the patient, even if they are asymptomatic (2,4).

At the end of the treatment we have to repeat laboratory examination to confirm recovery from infestation.

## CONCLUSION

We can see that scabies is still a fairly frequent skin disease. Usually parents and children are infested at the same time, because scabies infestations are transmitted mainly by direct contact (4,5).

We should consider scabies whenever the patient has persistent papulovesicular lesions, with the itch worsening at night, and additional cases involving other persons at home (2,4).

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