

## Treatment of scabies

### 5% permethrin cream or oral ivermectin

● According to a meta-analysis of six randomised trials, including a total of about 600 patients with scabies, 5% *permethrin* cream seems to be more rapidly effective than oral *ivermectin*. Two weeks after treatment, the cure rates are similar. Uncertainties surround the risks associated with their use in women who are or may be pregnant, and in young children. Their transfer into breast milk should be taken into account.

Scabies is a contagious, parasitic skin infestation caused by the mite *Sarcoptes scabiei hominis*. It often manifests as intense itching which is worse at night, accompanied by skin lesions affecting in particular the interdigital spaces, while most often sparing the head and neck (1). Parasitological examination of a skin sample is sometimes useful for diagnosis in atypical forms (1).

Two drugs are used as first-line treatment of scabies: *permethrin* (a pyrethroid insecticide) as a 5% cream applied twice, at an interval of one or two weeks, and *ivermectin* taken as a single oral dose of 200 mcg/kg (2,3). *Ivermectin* 1% lotion for topical application to the skin is also an option, but as of early 2019, it is neither available nor authorised in this situation in France (4).

A systematic review conducted by a Cochrane Group, updated in 2017, identified randomised trials which compared these treatments in patients with scabies (5).

**Similar efficacy with permethrin cream or oral ivermectin.** In most of the studies identified, the diagnosis of scabies was not confirmed by parasitological examination (5). Depending on the trial, cure was defined as an improvement in pruritus, the absence of new lesions, or a negative parasitological examination (5).

According to a meta-analysis of six trials in a total of 613 patients, 5% *permethrin* seemed to be more rapidly effective than oral *ivermectin*. One week after treatment, about 65% of patients in the *permethrin* groups were considered cured, versus 40% in the oral *ivermectin* groups (5). Two weeks after treatment, about 70% of patients were considered cured, with no difference between the groups (a)(5).

According to three trials in a total of 482 patients, the efficacy of topical application of a 1% *ivermectin* lotion seemed to be similar to that of 5% *permethrin* cream or oral *ivermectin* (5).

**Young children, pregnant or breastfeeding women: use with caution, given the uncertainties.** *Permethrin* carries a risk of rare cutaneous adverse effects, including pruritus, redness, burning sensation, dry skin, oedema and hypersensitivity

reactions (2,5). Its use is authorised in children aged 2 months and older. However, one epidemiological study, in 2006, raised the possibility of an increased risk of acute leukaemia after use of *permethrin* in children (6). No particular safety signal has been identified in the unborn child when a pregnant woman uses *permethrin* (2). *Permethrin* is transferred into breast milk, and its application to the breasts creates a risk of ingestion by the breastfeeding baby. It is therefore advisable that women suspend breastfeeding during *permethrin* treatment (2).

The adverse effects of oral *ivermectin* are rare and in general not serious, including: headache, dizziness, blurred vision, diarrhoea, vomiting, abdominal pain, bone and joint pain, and haematuria (3,5). *Ivermectin* 1% lotion carries a risk of rare cutaneous adverse effects, but we have less experience with its use (4,5). The data on pregnant women exposed to *ivermectin* have not revealed any particular risk for the unborn child (6,7). Fetal malformations have been observed after administration of *ivermectin* to animals (6,7). *Ivermectin* is transferred into breast milk and has not been evaluated in children weighing less than 15 kg, which justifies suspending breastfeeding to allow time for elimination of the drug and its metabolites (3,5).

**In practice** In patients with scabies, topical application of 5% *permethrin* cream and oral *ivermectin* have a similar harm-benefit balance. 5% *permethrin* cream seems to be more rapidly effective, but its application is sometimes difficult in practice. In pregnant women, it seems preferable to use *permethrin* and to avoid *ivermectin*. In breastfeeding women, it is advisable to temporarily suspend breast feeding during treatment with *ivermectin* or *permethrin*. In infants weighing less than 15 kg, *permethrin* is the main option to consider, after making sure that the skin lesions are actually symptoms of scabies.

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**a- In three of these trials, a second dose of oral ivermectin was administered one week after the first dose, either in all patients or in those who had not been cured after the first dose (ref 5).**

#### Selected references from Prescrire's literature search

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- 5- Rosumeck S et al. "Ivermectin and permethrin for treating scabies" (Cochrane Review) (last update 2017). In : "The Cochrane Library" John Wiley and Sons, Chichester 2018; issue 4: 98 pages.
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- 7- ANSM "RCP-Stromectol" 16 April 2018: 6 pages.