



# Why am I so itchy?

**BACKGROUND** Virtually all of us experience an itch at some time. However, for some people, an intense or persistent itch can cause considerable morbidity that often affects the entire family.

**OBJECTIVE** This article gives an overview of the problem of itch, and discusses the assessment and management of atopic eczema, scabies, lichen planus and dermatitis herpetiformis.

**DISCUSSION** A good history will nearly always provide the diagnosis. Examination can then be targeted at finding specific signs. The distribution of rash is important, as is examination of the nails and mouth. Simple but helpful investigations such as microscopy and skin biopsy can be carried out in the consulting room. If a patient presents with a very itchy rash, consider four main possibilities: eczema, scabies, lichen planus and dermatitis herpetiformis, with the first two being the most common. For chronic conditions such as eczema, structured follow up is essential.

We all experience itch at times; fortunately for most of us it is brief and easily relieved. However, some patients develop intense and/or persistent itch due to a particular skin disease or systemic illness. An itch due to disease or illness can be very debilitating.

## General considerations

### History

When a patient presents with the problem of itch, a good history will usually provide the diagnosis, or at least narrow down the possibilities to two or three conditions. After the initial open interview, some direct questions to clarify the story are important including:

- how long ago did the itch start
- how intense is the itch (eg. waking at night)
- have you had this before, and
- is anyone else in the family itchy?

### Diagnosis

Shouldn't diagnosis come after a complete history, examination and investigations? Possibly, but in practice doctors normally diagnose the problem after 1–2 minutes. It is usually intuitive, based on knowledge and experience with the problem quickly classified as either:

- a straightforward common problem
- sounds like a minor problem, but not quite sure what it is
- sounds like a serious problem, and haven't got a clue, or
- no idea at all.

### Examination

One important aspect to the examination is touching the patient. At times, this in itself can be very therapeutic. Examination is carried out to confirm the diagnosis, with specific areas being focussed on rather than a comprehensive general examination.



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Figure 1. Atopic eczema



Figure 2. Excoriation of the limbs

### Investigations

In many cases, investigations are not required. Sometimes it is useful to take a swab or skin scraping, and occasionally, a skin biopsy. Investigations are most useful when a particular disease is being tested for single rather than multiple nontargeted investigations.

When a patient presents with a very itchy rash, it is worth having four possible causes in mind. Obviously there are many causes of a very itchy rash, however, the following four causes will cover most possibilities:

- eczema/dermatitis
- scabies
- lichen planus, or
- dermatitis herpetiformis.

The first two causes are the most common and the last is quite rare, with lichen planus only seen occasionally by most general practitioners.

### Atopic eczema

Atopic eczema is a very common cause of itch. A typical presentation is a baby at 6–12 months of age. The baby starts to rub and scratch, and sleep is often broken. The family may already be well known to you as being atopic. If not, ask questions about asthma,

eczema, hayfever, migraines, and urticaria in close family members. Be flexible with questions. For instance, a parent may have had 'wheezy bronchitis' as a child; ask about hives rather than urticaria.

### Examination and investigation

Undress the baby and look at the entire skin surface. Typically there is a red scaly rash of the face, cubital and popliteal fossae (*Figure 1*). The protected nappy area is often spared. The scalp may also be involved and may look similar to bad cradle cap. In more severe forms, there may be involvement of the extensor surfaces of the elbows and knees, or even universal eczema. Excoriations are often evident, and there may be weeping and secondary infection (*Figure 2*). Consider a bacterial swab if there are suspicions of secondary infection. Always have a high index of suspicion of secondary staphylococcal infection.

### Management

Management starts with discussing the diagnosis with the parents and explaining that eczema is an inherited disorder that produces an itchy, dry skin aggravated by exposure to irritants and allergens. It is important to explain that the eczema is not solely due to an allergy,



but that if significant allergies are present, it is important that these are identified and avoided if practical. Also, ask what has been tried already including 'natural' therapies. Emphasise the important practical aspects of treatment accompanied by written information for the patient (see *Patient education* page 515 this issue).

Topical steroids can be used to reduce the itch and inflammation. Some parents are wary of using steroids, and it is worth asking about this. Explaining the difference between oral and topical steroids and their side effects is often useful. Commence with 1% hydrocortisone ointment and encourage adequate use. Mometasone furoate ointment may be used for stubborn areas, even on the face for short periods.

Prescribe oral antibiotics for secondary infection (which is usually *Staphylococcus aureus*, sometimes streptococcus). Depending on local resistance patterns, consider erythromycin, cephalexin or flucloxacillin.

Some parents are very keen to pursue possible allergies as the main or only cause of the eczema. Ten percent of children will have a significant allergy. The history is important, and if suspicion is high and has not been confirmed by dietary challenge, then RAST or skin prick testing should be considered, with correlation between test results and the patient's symptoms. The most common allergens are nuts, eggs, cows milk, wheat and strawberries. Contact allergens such as grass, animal dander and dust mite can also be present. In the majority of children, allergies have little bearing on the activity of eczema.

Organise follow up of the patient to review progress and reinforce advice. There is likely to be new questions to answer after the family has had time to think about various aspects of the eczema. It is useful to organise review after 1–2 weeks.

## Scabies

Scabies should always be kept in mind as a possible cause of itch. It is very satisfying for both doctor and patient if a problem has a cure. Doctors may not see a case of scabies for a long time. This may change quickly when there is a community outbreak. In some areas such as parts of Northern Australia, it is endemic.

## History

A typical presentation is the gradual onset of an itch in a person who is not usually prone to itches and rashes. It is worth determining if the patient is atopic, as this can influence the severity of the itch and rash. Important questions to ask are:



Figure 3. Eczematous scabies rash on the trunk

- how long ago did the rash start
- does it wake you at night, and
- are any family members, friends or classmates itchy?

It is important to remember that not all people infected with scabies will itch.

## Examination

Usually the history will tell you if it is likely to be scabies. Examination can then be targeted at finding confirmatory evidence of scabies. Look at the hands including the wrists and interdigital spaces using a magnifying loop (x2 magnification is sufficient). Try to identify burrows. At one end of the burrow there is usually a small grey dot. Scrape this off with a scalpel or 20 gauge needle and place on a slide. Microscopy should reveal a scabies mite and possibly some eggs. The sight of a scabies mite under magnification will convince any doubting patient about the diagnosis. Some patients will have an extensive excoriated, nonspecific eczematous rash on the trunk and limbs that is not diagnostic of scabies (Figure 3). However, nodules and papules in the axillae and perineum are highly suggestive. Nodules on the penis are virtually pathognomonic. Usually there is no rash on the face or scalp, although rash can appear on the scalp of babies with very little hair.

Do not become overly concerned with the risk of becoming infested when examining a patient with scabies. Five minutes of direct contact will not transmit scabies, although thorough hand washing is essential following examination.



Figure 4. Crusted scabies



Figure 5. Crusted scabies

Very occasionally, there can be the problem of crusted scabies (*Figure 4, 5*). This is an extreme infestation with the scabies mite and the patient is highly infectious.<sup>1</sup> It occurs in immunosuppressed patients and those with Down syndrome (possibly due to abnormal immune function). There is extensive crusting and scaling of the skin and close examination will reveal many burrows – far more than in a typical case of scabies. Sometimes the diagnosis is not made until carers of the patient become infected and itchy.

#### Investigations

Generally, the only investigation is microscopy of skin

scrapings which can be done during the consultation. If this is not possible, collect scrapings from burrows onto a glass slide and tape another slide to the top of that slide and send to pathology.

#### Treatment

Before any treatment is prescribed, it is important to explain scabies to the patient and their family (see *Patient education* page 515 this issue). A systematic review of scabies treatment<sup>2</sup> did not show any major difference in effectiveness of different drugs. However, there have been insufficient studies to determine the relative toxicity of many drugs used. Permethrin appears to have less potential for adverse effects than lindane, but this has not been derived from trial data. Generally, the choice is between:

- permethrin cream 5% or lotion 5%
- benzyl benzoate lotion 25%, or
- crotamiton cream 10%.

Lindane and 10% sulphur ointment are now rarely used, but are still effective treatments. It is considered safest to use permethrin in babies and young children. Adults with an extensive rash tend to prefer permethrin cream to benzyl benzoate lotion as the latter can be highly irritating to excoriated skin. The other consideration is cost. If several family members are to be treated it can become very expensive and correct treatment may not result. It would be reasonable to treat children and badly affected adults with permethrin cream, and treat all other adults with benzyl benzoate lotion. Several adults can be treated with one bottle of benzyl benzoate.

If all contacts are treated correctly on two occasions about 7 days apart, no more treatment should be required. It is important to explain to the patient that the itch may take a few weeks to fully resolve with most people noticing a vast improvement within 1 week. Any slowly resolving itches can be treated with antihistamines and topical steroids. An increase in the itch after initial improvement is very suggestive of re-infection and the need for re-treatment.

Scabies nodules are sometimes very slow to resolve, and on their own are not an indication for re-treatment. It is sometimes useful to inject a small amount of triamcinolone 10 mg/mL into stubborn nodules.

### Lichen planus

#### History

Typically, a very itchy eruption appears over a few weeks. There is no specific relationship to other medical conditions or to atopic tendencies. It is some-



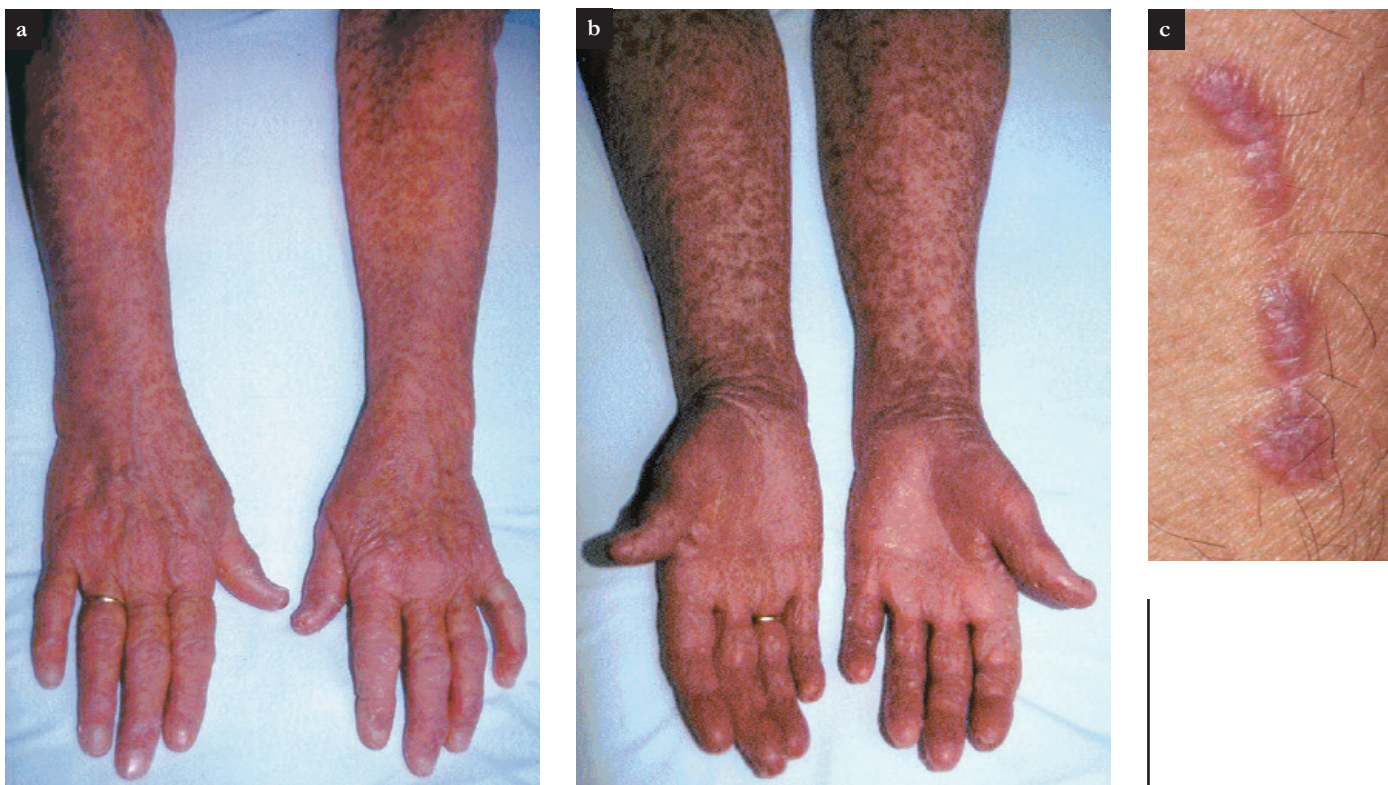


Figure 6a, b, c. Wickham's striae

times associated with a stressful event (physical or emotional). Lichen planus is not contagious. Sometimes it is asymptomatic, but classically it is extremely itchy. Lichen planus can appear at any age, but occurs most commonly in the 30–60 year age group. The cause is not known.

### Examination

Take note of the distribution of the rash. Typically lichen planus appears on the wrists, ankles and groin and is occasionally generalised. Look closely at individual lesions – the classic lesion is a small, polygonal, flat topped violaceous papule which occurs in clusters. The surface has fine white etched lines (Wickham's striae) that are pathognomonic (*Figure 6a, b, c*). Lichen planus can also exhibit the Koebner phenomenon (lesions appearing in areas of trauma, eg. a scratch) (*Figure 6d*). Hypertrophic lesions can develop, especially on the shins. Inflammatory hyperpigmentation develops easily under lesions and this can become a social problem for some patients. Examine:

- nails – they can become thin with longitudinal striations. Occasionally nail plates can be permanently destroyed by very aggressive lichen planus
- oral – the classic finding is 'lace-like' white lesions

on the buccal mucosae. Occasionally erosions develop on the gums, tongue or mucosae (*Figure 7*)

- genitals – the glans penis or labia (patients may be concerned about the possibility of infectious diseases).

### Investigations

If there are classic findings on examination then no investigations are required. If there is any doubt, a skin biopsy may be performed. A 3 or 4 mm punch biopsy of a relatively new unscratched lesion is best. Usually no suture is required. Handle the specimen carefully to avoid crush artefact. The histology is usually quite specific, with a band-like lymphocytic infiltrate along a disrupted dermoepidermal junction. No other specific investigations are required.

### Treatment

Explain to the patient that the rash is idiopathic and not contagious. It will resolve spontaneously, but can take from 6 months to 2 years. Hypertrophic lichen planus on the shins can last even longer. No treatment shortens the course of the disease, but is usually required to relieve the itch and improve the appearance of the rash. Treatment options include:

- topical corticosteroids, eg. betamethasone 0.5%,



Figure 7. Lichen planus of the tongue

mometasone 0.1%; wet dressings to produce some occlusion of topical steroids can provide relief

- intralesional steroids, eg. triamcinilone acetone 10 mg/mL are useful for hypertrophic lesions
- systemic steroids are worth considering for severe itching during the early stages, eg. prednisolone 25–50 mg per day tapering over 3–4 weeks. The main aim is to avoid long term use of oral steroids and their inevitable side effects
- sedating antihistamines may be useful for night time, eg. promethazine, azatadine
- other systemic treatments may occasionally be used for severe lichen planus, eg. acitretin, a vitamin A derivative.<sup>3</sup> Consider referral in this situation.

## Dermatitis herpetiformis

Dermatitis herpetiformis is a rare cause of itch, but certainly needs to be kept in mind when a patient presents with a very itchy rash. The rash is caused by a gluten enteropathy, and even though most patients do not have specific gastrointestinal symptoms, a small bowel biopsy will show coeliac disease in all patients.<sup>4</sup>

## History

Dermatitis herpetiformis usually presents as symmetrical, grouped, very itchy lesions on the scalp, buttocks, shoulders, front of the knees and backs of the elbows.<sup>5</sup> It is most common in early to middle adulthood.

## Examination

An important clue to the diagnosis is the distribution of the rash. Classically, there are grouped vesicles (hence the term herpetiformis). Urticarial lesions are also common and – due to the intense itch – there are usually numerous excoriations. The vesicles may not be that obvious due to the scratching.

## Investigations

Skin biopsy for histology and immunofluorescence is usually diagnostic. If possible, find an intact vesicle to biopsy for histology and also send a biopsy of relatively normal skin within about 1 cm of the rash for immunofluorescence. The pathology shows a subepidermal blister, neutrophilic microabscesses in the papillary dermis, and IgA deposits in the dermal papillae and along the basement membrane. Investigations for coeliac disease should be performed.

## Treatment

Dermatitis herpetiformis usually responds very well to dapsone – typically 100 mg a day – with patients showing a vast improvement in itch within 48 hours. This contrasts with no relief from oral corticosteroids. A strict gluten free diet will also keep the rash under control after a few months; with some patients ceasing dapsone. Dapsone use needs to be monitored with a regular blood count (eg. weekly for a month and then monthly) to check for haemolytic anaemia and methaemoglobinaemia. There is also a weak association between dermatitis herpetiformis and small bowel lymphoma – another reason to maintain long term follow up.

Conflict of interest: none declared.

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