Atopic dermatitis of the newborn

What we need to know

The pathophysiology of AD is complex.

Atopic dermatitis (AD) is the standard medical name for constitutional eczema, or eczema. It is a frequently occurring disease during childhood and effects roughly 10% of newborns. It is the first manifestation, which often remains the only one, of an atopic tendency (allergic rhinitis, asthma, digestive allergies).

AD is a complex multifactorial disease that associates two types of factors:

- an alteration of the epidermal barrier (filaggrin deficiency, excess of proteases) that makes the skin dry and abnormally sensitive to every type of aggression;
- a tendency to allergic sensitisations to IgE.

If the pathophysiology of AD is complex and continues to illicit new studies, in practice the diagnosis is simple and a local treatment is sufficient to provide an improvement in virtually all cases.

The treatment is simple but it is important to teach the parents how to apply it correctly.

Quite often, false beliefs will go against the treatment (milk, teething, allergies…) as well as a true phobia of corticosteroids, based on the lack of knowledge concerning the advantages and limits of such treatments. This corticosteroid phobia is sometimes exacerbated by health professionals.

The effect of interventions on the environment are highly debatable.

The advantages that atopic newborns could reap from their environment, in particular allergenic environment, has been studied at length. We can currently conclude that apart form specific cases and individual signs there is no advantage in fighting against dust mites, animal hairs or to alter the mothers diet if she is breast feeding, of changing the baby’s milk if he is bottle fed, to alter his diet and to perform allergological studies…

The cheeks are usually the initial location of AD: red plaques that are more or less limited, rapidly become vesicular or squamous.

Involvement spreading to the face and trunk.
What needs to be done

Establish the diagnosis, which is usually easy

The children have normal skin at birth. AD starts in most cases in the first three months of life. It involves an eczema with erythematous plaques with rough edges and an irregular surface. These plaques will then become covered with small vesicles that weep and then become crusty.

In the newborn, AD usually appears on the forehead and cheeks. It will then spread to the face like a mask and also affects the trunk and extends to the limbs on extension folds. Pruritus is the essential sign of AD. It can not be present to start with but then becomes highly present, disturbing the life of the child and his family.

The general state of health is preserved. In the absence of infection, there will be no adenopathy or fever.

Make sure there are no complications

Bacterial infections, the most often involving staphylococci, manifest themselves as a crusty weeping or purulent aspect, erythematous edematous plaques, adenopathies, an alteration in the general state of health and fever. An overinfection requires the prescription of anti-staphylococcal oral antibiotics over a period of a few days.

*Herpeticum eczema* is the sign of a herpes primo-infection in patients with an atopic background. It manifests itself by ombilical-like pustules.

Spreading of the eczema is considered as erythroderma.

These complications can require brief hospitalisations.

Setting up the treatment

It is dependent on three principles:

- Cutaneous hygiene to prevent overinfections;
- Regular moisturisation of the skin to reinforce the epidermal barrier
- Local anti-inflammatories (dermocorticosteroids in first intention) to control the eczema outbursts.

The prescription therefore includes:

1 – *Skin care products*

- the prescription of a daily bath, not too warm (32-33°C) in order to avoid vasodilation which contributes to pruritus, and the use of a bath oil:
- Cleaning with soap or a dermatological liquid (no irritating soaps), followed by gentle rinsing
- application on the whole body, except for areas of weeping eczema, of a neutral emollient. It is important to insist on this hydrating treatment. It reinforces the epidermal barrier, contributes to calming the pruritus and decreases the need for dermocorticosteroids.
2 – Local corticotherapy.

Dermocorticosteroids (DC) are very effective on eczema of the newborn, but of course this treatment only removes the symptoms. The parents must know and understand in order to avoid two pitfalls: continue the treatment in an excessive manner which would expose the child to side effects, or to abandon the use of DC which would cause the eczema to become chronic and get worse.

The general principles of local corticosteroid therapy in AD of the newborn are:
- To use a cream that is efficient in all areas of the body,
- To start with an averagely strong DC (desonide) and limit the use of strong DC (betamethasone) to short periods of time in limited areas.
- In an acute phase, DC should be applied in small quantities everyday, once a day (usually in the evening after the bath), then spread out the applications (once or twice a week).
- An essential point, the quantities used must be strictly controlled: no more than 15g the first month for a newborn of less than a year old. Then, 15g should be enough for two to three months.

Make sure that the treatment is well understood and accepted, correctly performed and effective.

Parents can have difficulties in managing their child’s eczema, carrying out the treatment and understanding the benefits. Frequent consultations are therefore necessary to make sure they adhere to the treatment and that it is effective.

In the context of this practical sheet, we will not give any details on other treatments of AD, which in fact concern older children (after the age of two).

What needs to be said

AD is a benign but chronic disease and an efficient treatment requires a confident management. This obviously requires long consultations, which have an educational aspect. We must not only talk but also listen as the parents have their own opinions on eczema, its causes and treatments.

Listen to false beliefs in order to correct them.

These false beliefs can be numerous: eczema is caused by milk, teething, digestion, water, baths, allergies, family conflicts,… All this must be corrected, and we must insist on the fact that eczema is a skin disease that is treated through the skin. Many parents also believe that treating eczema brings out, or induces asthma. They must stand corrected: the contrary is true: by treating the skin, we limit the risk of sensitisation to pneumoallergens.

Reassure the parents on the good tolerance and great efficiency of dermocorticosteroids.

Another false belief that is widespread concerns the side effects of dermocorticosteroids. In reality, if dermocorticosteroids are used correctly they are very effective and well tolerated. The side effects that have been observed, and that are described in great detail on drug packets, were in situations of excessive and prolonged usage. We must also mention that what we call « cortisone » with regard to eczema is in the form of a cream that has none of the side effects that can be observed with tablets.
Reassure the parents as to the excellent long-term prognosis

In the vast majority of cases, children will experience a few outbursts during infancy which then disappear without leaving any scars. Sometimes eczema can last after the child is two years old and can even last until adulthood, but this is rare. We provide children with the best chances of getting better by treating them efficiently early on.

See the child again rapidly to make sure he is getting better and reevaluate the necessary information/education

Another consultation must be programmed after one or two weeks, because at this stage the child will have greatly improved and the parents will be more confident and optimistic and will be more receptive to advice concerning the maintenance treatment, prevention and the treatment of potential future outbursts.