Considerations for paediatric and adolescent patients

Important phenotypic and diagnostic differences

AE may appear during the first months of life and most patients develop the condition before the age of 5 years. Around 60% of children outgrow AE in some cases. However, significant numbers either represent with AE or hand eczema as adults.[1]

Severe early disease and a family history of AE may predict a more persistent course of the disease.[2]

During infancy (0-2 years) the predeliction areas are the cheeks, head, trunk, and extensor surfaces of the extremities, although flexural involvement is also common, which becomes an even more prominent feature during later childhood.

The first clinical signs often appear on the cheeks in form of erythematous, oozing, crusted plaques. The symptoms may then generalize and spread to the scalp, forehead, trunk, and limbs. Centrofacial pallor along with spared area of the nose and paranasal skin cause the „headlight sign" appearance. The diaper area is also usually intact in infancy. The facial symptoms usually decrease by the end of the first year.[3]

Prematurity causes barrier dysfunction with higher transepidermal water loss (TEWL) and increased percutaneous absorption of chemicals. This is an important factor at planning local treatment dosage, body area, and duration. Infants are more susceptible to percutaneous toxicity. Their high surface area-to-volume ratio, immature drug metabolism systems, and decreased subcutaneous fat stores increase the absorption potential of the skin, while decreasing the volume of distribution of a drug or toxin. In full-term infants skin barrier development continues also during the first year of life.

Bathing an infant provides important psychological benefits between parent and child. Bathing of infants with AE should be brief to maintain the microbial flora, which is changing with age, avoiding harsh soaps and detergents and using bath emollients to aid skin hydration and emollients as soap substitutes to aid barrier function.[4]

Wet wraps can be a useful treatment approach where additional hydration of the skin is needed, in particular in young children. [5]

Prevention

In children with AE we suggest to pay particular attention to emerging concomitant allergic diseases. About half of patients with moderate-to-severe AE develop food allergies (FA), asthma, and allergic rhinitis.

Skin care interventions, such as the regular use of emollients during the first year of life, have not shown convincing evidence of a reduction in AE development up to 2 years of age (see also emollient section).

Topical anti-inflammatory treatment

As for adults, a stepped approach of TCS potency is recommended. Mild potency TCS is typically sufficient for mild atopic eczema in the face and neck (for 5-7 days). Moderate potency TCS are used for moderate atopic eczema, and potent for severe atopic eczema. Moderate or potent preparations are used for short periods (7 to 14 days) for flares. In vulnerable sites such as axillae and groin, less potent topical corticosteroids or TCI are desirable. Topical corticosteroids are recommended to apply once or twice daily for children under 12 years. Adolescents and adults will generally be instructed to

apply a topical steroid 1-2 times a day for short bursts of treatment, and then stop or step down use when the AE flare-up settles. Potent or very potent topical corticosteroids in children aged under 12 months should only be applied under specialist dermatological supervision.[6]

TCS are applied once or twice daily to all the affected areas, one of the times ideally shortly after a bath. The most common way to measure the amount of medication needed is by fingertip unit (FTU). This means the amount of medication that covers the finger from its tip to the first joint.

To treat the face of a 3-month-old infant, 1 FTU will suffice. To fully cover an entire leg of a 6-year-old, a 4 FTU dose is used.

With mild disease activity, maintenance use of topical corticosteroid twice to thrice weekly (monthly amounts in the mean range of 15 g in infants, 30 g in children and up to 60–90 g in adolescents and adults, adapted to affected body surface area) with a liberal use of emollients do not result in adverse systemic or local effects.[2]

TCI may effectively and safely be used as anti-inflammatory agents in the treatment of AE, especially on sensitive skin areas (e.g. face), from age two. The use of TCI in younger children is common (Ref. 349). Daily application (BID) recommended during relapses on the affected area, following the FTU rules, while according to the pro-active regimen they may also be applied twice a week on the symptom-free areas.[2] TCI are also used off label under 2 years of age in many centres.

References

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