Pediatric acne

Acne is a chronic inflammatory condition of the pilosebaceous follicle. It occurs mostly in adolescence but can also appear in different age groups with different clinical aspects. If it occurs in childhood, clinical signs of hyperandrogenism must be sought, and endocrinological investigation may then be indicated. Treatment of infantile acne is the same as for teenage acne, while taking age-related contraindications into account.

Neonatal acne

This is a transitory form of acne, occurring in around 20% of neonates, most frequently in boys.

It is thought to be caused by stimulation of the sebaceous glands by maternal androgens, but a possible role for Malassezia furfur has been mentioned.

It can be aggravated by inappropriate local care products (oily agents applied topically). A drug therapy for the mother, based on lithium or hydantoin, should be investigated.

It rarely affects the thorax, however the spread of inflammatory lesions (papules and pustules) to the shoulders and upper back may be observed.

Its course is spontaneously favorable within a short period of on average two to three months, but this may be prolonged if the transitory hyperandrogenism of the neonate has induced a transitory production of hypophyseal gonadotropins and ACTH. Exceptionally, this can even lead to the formation of recurrent gummatous abscesses in the cheeks past the age of infancy.

Infantile acne

This starts at around 2 years of age, with no real well-defined age limit for prepubertal acne (Figure 1).

The acne is generally made up of predominantly inflammatory lesions. Signs of hyperandrogenism must be sought, such as premature development of hair and genitalia, obesity, and tall stature.

If these are present, the workup will include testing for congenital adrenal hyperplasia (caused in particular by a 21-ß hydroxylase enzyme deficiency) or for a pituitary, ovarian or adrenal tumor.

If there are no clinical signs of hyperandrogenism, no additional assessment is necessary.

The therapy is that of juvenile acne taking age-related contraindications into account.



Fig. 1: Infantile acne

Prepubertal acne

Prepubertal acne presents essentially in the form of noninflammatory lesions on the forehead, cheeks and nose.

It has been shown that female patients who subsequently developed serious acne were those who had a large number of comedones around the age of 10 or in the 3 years preceding menstruation, and those whose level of dehydroepiandrosterone sulfate was at the upper normal limit during the prepubertal period. The level of testosterone is also likely to be slightly elevated but remaining within the normal range.

Prepubertal acne can also reveal the presence of polycystic ovary syndrome (1).

As with infantile acne, clinical signs of hyperandrogenism must be sought (premature development of hair and genitalia, obesity, tall stature). If there are none, there is no need for a hormonal assessment.

- Sources

1. 1. Lucky AW, Biro FM, Huster GA, Leach AD, Morrison JA, Ratterman J. Acne vulgaris in premenarchal girls. An early sign of puberty associated with rising levels of

dehydroepiandrosterone. Arch Dermatol 1994;130:308-14.