Paediatric dermatology in diverse skin types

Overview:

Paediatric dermatological conditions have differing presentations in skin of colour and different markings and indications relating to the specific condition. It is important to be aware of these and appreciate the clinical differences so that individuals with skin of colour are not misdiagnosed or overlooked.

In skin of colour there may be increased dryness of the skin, itching or pain as opposed to the classical 'redness' and erythema affiliated with dermatological presentations which, in these skin types may not be visible.

Skin of colour predominantly acquires pigmentary changes following injury to the skin, pathology, or inflammation (post inflammatory hyperpigmentation and post inflammatory hypopigmentation).

Skin of colour also has an enhanced risk of hypertrophic scarring and keloids proceeding injury compared to white skin.

Keloids are hard growth, firm scars which occur because of excessive scar formation; keloids are more common in darker skin types with these lesions carrying much more pigment and being less pink.

Birthmarks:

Vascular- port wine stains:

- ⇒ Vascular birthmark due to the abnormal development of blood vessels
- ⇒ Flat red or purple (darker skin) mark on the skin which is present at birth.
- ⇒ As the child grows, the PW stain becomes darker, thicker, and potentially embodies a cobblestone appearance with raised bumps. These bumps are sometimes called vascular "blebs"
- ⇒ These need protection from the sun.
- ⇒ Increased risk of glaucoma in paediatric presentations

Laser as a treatment and considerations in skin of colour:

Laser is currently the main treatment option for port wine stains, a type of vascular malformation. However, in skin of colour especially, the parameters of consideration are much greater. Laser can cause hyperpigmentation or excess darkening of the area or surrounding areas as well as blistering and scarring.

Laser is helpful in the treatment of superficial haemangiomas and other cutaneous vascular lesions as well.

We normally start with PDL laser with a wavelength of 595nm. If the port wine stain is recalcitrat then Nd:YaG with a longer wavelength of 1065nm is trialled. This has an increased risk profile but penetrates deeper to the dermis.

Infantile Haemangioma:

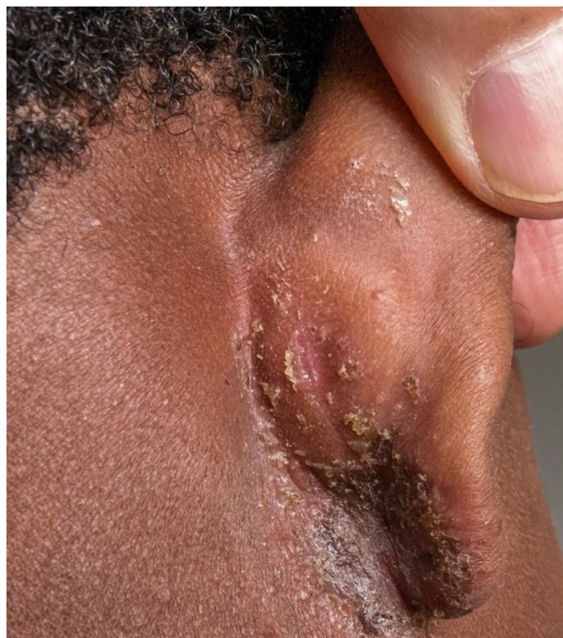
⇒ Also deemed 'strawberry naevus'
⇒ The most common benign vascular skin tumour in paediatric dermatology
⇒ Appear as dark red or purple areas of the skin in skin of colour; these grow and become more raised as the child grows.
⇒ Normally appear soon after birth and will start to regress at 12 months of age.
⇒ By age 9 about 90% have regressed.

Molluscum contagiosum:

⇒ Rash with smooth, round skin-coloured bumps with a central indentation
⇒ In children this rash is typically on the face, trunk, arms, or legs.
⇒ Molluscum bumps can become inflamed if they are picked or scratched.
⇒ They can also become inflamed on their own in the absence of trauma.
⇒ In children with darker skin, inflamed molluscum bumps appear less pink and either skin coloured, purple, or grey.
⇒ The inflammation can cause post inflammatory hypo or hyperpigmentation.
⇒ Liquid nitrogen/cryotherapy can be used for the treatment of this condition in which the bumps are frozen and then physically abrased or removed through laser therapy or instrumentally.
⇒ Most commonly we use MolluDab to treat this topically in children.

Impetigo

⇒ Bacterial skin infection
⇒ Characterised by pustules and honey-coloured crusted erosions.
⇒ Post inflammatory hypo or hyperpigmentation can occur but scarring isn't common.



Post auricular eczema: golden brown crusting associated with impetigo in conjunction with hyperpigmentation and eczematous skin.

We would treat this with Fucidin H on the face or Fucibet on the body. If the impetigo is severe then they may need oral antibiotics as well.

Seborrheic dermatitis:

- ⇒ Also known as cradle cap
- ⇒ Common, relapsing inflammatory condition.
- ⇒ Affects areas of the skin with greater levels of sebum production such as the scalp, nasolabial folds, ears and other skin folds.
- ⇒ Presents differently in skin of colour.
- ⇒ On black or brown skin, cradle cap appears as thick crusts or patchy scaling on the scalp as well as greasy skin covered with white or yellow scales.
- ⇒ Children of colour do not embody the classical 'cradle cap' appearance of seborrheic dermatitis but instead, have itching, erythema, flaking and hypopigmentation of the skin and folds.
- ⇒ Treatment is ketoconazole shampoo 2% twice a week

Atopic Dermatitis in SOC

Important to remember that we can underestimate the severity because erythema is less obvious. Scoring tools like the EASI score base $1/4^{th}$ of the score on erythema, so this is important to keep in mind.

Furthermore in darker skin types, chronic itching and scratching will cause amyloid lichenification. Which is when amyloid deposits in the dermis causing a reticular pigment patter. The best treatmenet is to break the itch-scratch cycle.

Psoriasis

Psoriasis is another common condition in children. Again, in SOC it is harder to see the underlying erythema but well-demarcated plaquest with silver scaling throughout should be seen.

Must differentiate it from fungal infections like tinea, where the scale is usually at the edge of the lesion with central sparing. IF there are any doubs then fungal skin scrapings can be sent to the lab, or in adults, we even sometimes do biopsies of the skin if we are unsure.

Pityriasis

Pityriasis alba: Hypopigmentation seen in darker skin types due to dry skin. Most commonly occus on the face and is in patients who have mild underlying atopic dermatitis.

Pityriasis versicolour: overgrowth of Malassezia yeast. Can appear like annular lesions, usually not very scaly but can be itchy. They come in clusters and are treated with ketoconazole shampoo or topical clotrimazole cream.

Pitryasis Rosea: usually a post-viral or drug related phenomenon. Starts with an itchy larger "herald patch" then the rest of the rash crops up in a "Christmas tree" distribution. It is usually very itchy but resolves within 3 months. We often give anti-histamines and topical steroid to control the symptoms.

<u>Genodermatosis:</u> There are many conditions that are genetic and cause dermatological signs. Two of the commonest ones:

Neurofibromatosis: NF1 gene, Autsomal dominant**, higher** Risk of CNS tumours
The signs and symptoms of neurofibromatosis type 2 usually appear during adolescence or in a person's early twenties, although they can begin at any age. The most frequent early symptoms of vestibular schwannomas are hearing loss, ringing in the ears (tinnitus), and problems with balance. I

Tuberous Sclerosis: Skin lesions include angiomas on the face, periungal angiomas, ash leaf spots and hypopigmented macules. The other main symptoms are epileptic seizures and developmental delay/behavioural problems.

DISCLAIMER: **Please note that this is a resource to help students and health professionals. It is not intended and should not be used as a resource, guideline or reference for clinical practice or decision making. It is not designed for patients looking for medical information or advice.**

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