

Family ties: Common genetic skin conditions

By Dr. Geeta Yadav

A number of common skin conditions tend to “run” in families. Skin patients might wonder about the likelihood of their child developing the same skin condition as them, and if they can predict or prevent its occurrence. In this article, we look at three common dermatologic diseases.

Psoriasis

Psoriasis occurs in two to three per cent of the population and can appear at any age. In children, the most common type of psoriasis seen is guttate psoriasis, which typically occurs after Strep throat and usually resolves completely after several months with treatment of the infection.

Both environmental and genetic factors are instrumental in the manifestation of psoriasis. One study found that the risk of a child developing psoriasis is 41 per cent if both parents have psoriasis and 14 per cent if just

one parent has the condition. In a patient with a genetic susceptibility, several factors can trigger the onset of psoriasis. These include sunburn, skin trauma, infection, emotional stress, tattoos and certain medications. There are, unfortunately, no screening tests to predict the likelihood of your child developing psoriasis.

Eczema

Eczema is a general term used for inflammation of the skin. Specifically, atopic dermatitis is a form of eczema that is chronic, causes intense itching and may occur in patients with a genetic susceptibility. Many patients with atopic dermatitis have “atopy,” which consists of atopic dermatitis, asthma and allergic rhinitis (hayfever-type reactions to dust, pollen and pet dander) clustered together. These patients have itchy skin and are more susceptible to environmental irritants.

Having a parent with atopic dermatitis is thought to be the strongest predictor as to whether a child will have the condition. Researchers have found that many different genes, combined with environmental exposure, are partially responsible for its development.

No good methods exist to prevent this disease from occurring, but avoiding triggers has been shown to prevent flares in those who already have atopic dermatitis. Researchers have looked at allergen avoidance during pregnancy and while breast-


feeding, but the results have not been conclusive.

Vitiligo

Vitiligo is a disease of depigmentation in the skin that is linked to genetic and non-genetic factors. It commonly occurs at sites of skin injury (such as a scraped knee). If a parent has vitiligo, disease severity in the children is usually less than it would be compared to if a parent has vitiligo in addition to an autoimmune condition associated with the disease, such as thyroid dysfunction.

Researchers have also found that the genetic patterns that cause vitiligo vary by ethnic background. This makes it difficult to explain exactly how vitiligo develops, although we do know that these genetic patterns cause abnormal pigment-producing cells in the skin (melanocytes) that are more at risk of cell death, leaving patches of depigmented skin. There are no tests to screen for vitiligo before it occurs.

In the future

As science and research progress, studies will continue to discover new information about the history and causes of skin conditions. Keep yourself informed by reading our “Research” section on page 22 and choosing trustworthy sources online. 

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Fast facts

Psoriasis: there are two peaks of onset, one between 15–30 years of age and the other after 40 years.

Eczema: 70 per cent of patients with eczema also have asthma.

Vitiligo: Up to half of patients with vitiligo have a family history of the condition.