Keratosis palmaris et plantaris

Also known as Palmoplantar keratoderma

What is palmoplantar keratoderma?

Palmoplantar keratoderma is the name given to a group of conditions where there is abnormal thickening of the skin on the palms of the hands and soles of the feet.

Palmoplantar keratoderma is classified based on whether it is inherited or acquired and on its clinical features.
Inherited palmoplantar keratodermas are classified into four different groups:

1) Diffuse
2) Focal
3) Punctate
4) Transgradient

Acquired keratodermas are not inherited and can be categorised based on various causes, as explained below.

What causes palmoplantar keratoderma?

There are many possible causes for acquired palmoplantar keratodermas including drugs, menopause, chemicals (e.g. arsenic), mechanical stimulation, malnutrition, systemic conditions (e.g. thyroid disease, circulatory disorders), malignancies (e.g. lung cancer, colon cancer, lymphomas), skin conditions (e.g. psoriasis, eczema, pityriasis rubra pilaris, lupus erythematosus) and infectious causes (e.g. syphilis, tuberculosis, human papilloma virus).

When the condition is inherited, family members will have the same type of palmoplantar keratoderma. Autosomal dominant keratodermas are likely to affect every generation of a family. However, in autosomal recessive keratodermas parents are “carriers” of the defective gene (meaning that they don’t show the disorder on their skin) but may pass it onto their children if both parents are “carriers”. Most inherited cases of the condition are caused by a defective gene producing keratin 9.

What does palmoplantar keratoderma look like?

In **diffuse** palmoplantar keratoderma, the skin on the palms and or soles appears thickened and may be hard, yellowish in colour. It affects the entire palm or sole.

In **focal** palmoplantar keratoderma, usually only pressure or friction points are affected.

In **punctate** palmoplantar keratoderma there are tiny skin spots on the palms and soles.

Transgradient palmoplantar keratoderma is rare. The condition extends onto the backs of the hands or feet.

How is palmoplantar keratoderma diagnosed?

Palmoplantar keratoderma is diagnosed by a detailed medical history and physical examination. When the condition is severe and hereditary keratoderma is suspected, the affected person maybe referred to a

geneticist for further testing.

What other problems can occur with palmoplantar keratoderma?

Individuals may experience pain when walking, foot odour, excessive sweating or maceration (moist, white and peeling) of the soles or between the toes.

Fungal infections and reduced sensation of the fingers or toes may also be present. The condition may also be associated with changes in nails, hair or teeth.

Those affected with keratoderma may also suffer psychological stress due to the appearance of their skin.

How is palmoplantar keratoderma treated?

Inherited palmoplantar keratodermas are not curable but symptoms can be controlled. The aim of treatment is to reduce the thickness of the skin and to soften the skin.

Treatment options include regular use of emollients, keratolytics such as salicylic acid or urea, antifungal cream or tablets if indicated, topical retinoids/calcipotriol and systemic retinoids.

Regular visits to a podiatry service for physical removal of thickened skin may be recommended, as well as the wearing of an appropriate shoe with customised insoles.

Acquired keratodermas will require additional treatment of the underlying cause.

What is the likely outcome of palmoplantar keratoderma?

Symptoms can be well-managed if suggested treatments are complied with.

Regular follow-up with a doctor is important to monitor skin irritation or other adverse effects associated with treatment. Regular blood tests may be required when using oral antifungals and retinoids. Women of reproductive age should avoid using retinoids and oral antifungals without appropriate contraception.