A case of xanthelasma palpebrarum

BRUCE TATE PhD, FACD

Occurring most often on the medial aspect of the upper eyelids, xanthelasma are mainly of cosmetic concern, but they can be seen as a marker for atherosclerotic disease risk.

Case presentation

A 67-year-old woman presented with an 18-month history of gradually enlarging, light yellow plaques on her medial upper eyelids (Figure). The plaques were asymptomatic and mainly of cosmetic concern to her.

The patient had moderate hypertension, which was being treated with amlodipine, but she was otherwise well, taking no other medications and having no known allergies.

Diagnosis

The diagnosis of this condition was xanthelasma palpebrarum.

Differential diagnoses

Favre-Racouchot syndrome

Favre-Racouchot syndrome is the presence of multiple, often grouped, macrocomedones (large blackheads), occurring in the setting of solar elastosis and other features of chronic sun damage. The solar elastosis causes a yellowish discolouration of the skin, and destruction of perifollicular elastin allows the follicular keratin to accumulate and cause the macrocomedones. This syndrome often affects thin skin sites on the face, particularly the temples, malar and periorbital areas. It is mainly seen in the elderly.

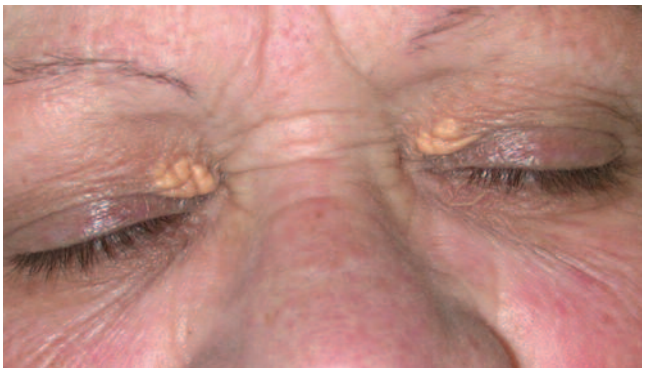

Figure. Yellowish plaques on the medial upper eyelids of a 67-year-old woman.

Sarcoidosis

There are many cutaneous manifestations of sarcoidosis. On the face it tends to form papules or plaques of various sizes; less often it forms nodules. The lesions are usually red or red brown but sometimes have a yellowish hue. Occasionally the cutaneous granulomas form tiny yellow dots when placed under pressure with a glass slide or dermatoscope (diascopy). They may form on the nose ('lupus pernio', which should not to be confused with chilblain lupus). The plaques may have prominent blood vessels ('angiolupoid sarcoidosis'). Sarcodosis may also involve the eyelids, although it is unusual to be located only at this site. Occasionally sarcoidosis localises to scars (scar sarcoid).

Cutaneous sarcoidosis often occurs without systemic features but it may be a part of systemic sarcoidosis. Systemic sarcoidosis has many potential manifestations but particularly affects the eyes, lymph nodes and lungs.

Diagnosis of sarcoidosis is made on biopsy because it can imitate various other skin conditions.

Necrobiotic xanthogranuloma

Necrobiotic xanthogranuloma is a rare, progressive, histiocytic disease that features destructive skin lesions, multisystem extracutaneous manifestations and a close association with paraproteinaemia. Skin lesions are red–orange to yellow in colour and have an element of skin atrophy telangiectatic vessels and sometimes scars and ulcers. The disease mainly affects the face (particularly the periorbital area) and neck, but it may be seen on the trunk and proximal limbs.

Systemic involvement is complex, potentially affecting the heart, skeletal muscle, lungs, kidneys, liver, spleen, intestines and central nervous system. Monoclonal gammopathy is present in 80% of cases, and 10% of such patients develop multiple myeloma or, occasionally, other lymphoproliferative disorders. Affected patients are also prone to cryoglobulinaemia.

Dr Tate is a Dermatologist in St Albans, Vic, and with the Skin and Cancer Foundation Australia.

Sebaceous gland hyperplasia

Sebaceous gland hyperplasia is a common, harmless skin condition. The hyperplastic sebaceous gland causes the development of a small (up to 3 mm) yellowish-red papule with a central dell, resembling molluscum contagiosum. Larger lesions can be confused with small basal cell carcinomas.

The papules are often multiple, ranging in number from a few to many (10s) and are seen particularly on the forehead, nose and cheeks. They do not form plaques and do not concentrate on the eyelids. They are of cosmetic concern only.

Syringomas

Syringomas are benign tumours of eccrine sweat duct origin. They form small flesh-coloured papules and most often occur on and under the eyelids but sometimes elsewhere on the face or occasionally on the neck or trunk. Usually they are sporadic, but occasionally there is a family history. They are of cosmetic concern only.

Comment

Xanthelasma are small to medium sized, light to mid-yellow coloured plaques seen almost exclusively on or close to the eyelids. They usually occur on the medial aspect of the upper eyelids, and less frequently occur on the lower eyelids. They vary from soft to firm in consistency. Starting quite small as solitary or a few patches, on one or both sides of the eyes, they slowly enlarge and tend to merge to form a larger patch. They usually do not itch.

Although uncommon, xanthelasma are more common in people of Asian or Mediterranean descent and in women (in a ratio of two women to one man), and the prevalence increases with age.[1]

Xanthelasma are due to accumulation of mainly cholesterol and related lipids in macrophages in the upper dermis. It is not clear why they occur on the eyelids, but factors may include the leakage of small amounts of serum from capillaries as a result of eye rubbing or minor torsional friction from opening and closing the eyes. Local monocytes and macrophages phagocytose the low-density lipoproteins (LDL) that gradually accumulate, thereby causing xanthelasma. About 50% of all patients with xanthelasma have raised serum cholesterol levels. Usually they have a Fredrickson type IIa pattern of hyperlipidaemia; less often they have a type IIb or III pattern. Occasionally people with xanthelasma also have a corneal arcus or tendinous xanthomas.

Treatment of elevated cholesterol is not a primary treatment for this condition, although there has been one report of xanthelasma clearance in a patient taking simvastatin for 10 years.[2]

Although xanthelasma are mainly of cosmetic concern, they can be seen as a marker for atherosclerotic disease risk. A large 40-year prospective study of adult Italian men showed that xanthelasma was one of nine significant predictors of future death, and a stronger indicator than hypercholesterolaemia. The presence of hypercholesterolaemia in addition to xanthelasma further increased the cardiac risk.[3]

In the Lipid Research Clinics Program Prevalence Study, xanthelasma and corneal arcus were associated with elevated plasma cholesterol and LDL cholesterol levels, especially in young men.[4] In addition, the odds ratios of ischaemic heart disease was also slightly raised in most groups who had both xanthelasma and corneal arcus.[4]

Xanthelasma can also be a marker of other conditions associated with dyslipidaemias, such as nephrotic syndrome, hypothyroidism and liver cirrhosis. The cardiac risk of people with normal lipid levels but who have xanthelasma is uncertain but may also be raised.[5]

Treatment

Treatment of xanthelasma is only carried out for cosmetic purposes. No cream is available to clear the lesions and some treatments may result in only partial resolution. Once cleared, the lesions may reappear. The therapeutic options are listed below.

Concealing the lesions

The use of colour-matched cosmetics is the simplest way to conceal the lesions. However, the yellow colour of the lesions can be difficult to hide and, because they are usually plaques, a contour change is usually visible even if the colour is hidden.

Physical destruction

Any method of physical destruction can leave marks, especially decreased or increased pigmentation but sometimes true scars. Pigment changes are particularly an issue in people with darker skin types. The available methods are:

- **Trichloroacetic acid (35% to 100%).** This weak acid is used for 'chemical peels'. It is applied using a cotton bud to the affected areas and rapidly causes a stinging, moderately painful frosty superficial burn on the skin. Some practitioners later neutralise the acid by applying bicarbonate of soda solution. The pain settles in a day or so, then the skin superficially peels. The healing of this moderately peeled skin seems to stimulate clearance of some of the cholesterol-laden macrophages. Repeated applications every one to two months slowly fade the xanthelasma. Occasionally partial fading is all that is achieved. There also is a risk of pigment change (darkening or lightening), which may be temporary or persistent. In a recent series of 24 patients treated with 70% trichloroacetic acid, 11 had an excellent result, eight a good result and five a satisfactory

result. Six had a recurrence of the xanthelasma within six months of treatment.[6]

- **Laser ablation.** A variety of lasers have been used to ablate the affected skin. Carbon dioxide or erbium lasers have been used most often, but pulsed dye, argon and Nd:YAG laser ablation have also been used successfully. The advantage of laser ablation is that it can be done more accurately, but it may cause scarring or pigment change (darkening or lightening).
- **Diathermy.** Rarely used for xanthelasma, diathermy is a more crude method of superficial destruction. It leaves a char that heals with a scar and is likely to cause pigment change (darkening or lightening).
- **Liquid nitrogen.** Light freezing with liquid nitrogen has occasionally been reported as a successful therapy for xanthelasma,[7] but it is an unreliable treatment and in theory more prone to cause pigment marks, especially loss of colour (more so in people with darker skin).

Surgical excision

Various surgical excision methods have been used to remove xanthelasma.[8-11] This technique is better suited for xanthelasma of the upper eyelids. Simple fusiform excision is an option, but the scar from this method can be unsightly and is prone to causing noticeable puckering of the skin at the tips of the excised areas. Ectropion or retraction of the eyelids is a limiting factor in the extent of possible surgery.

More elegant techniques with better cosmetic outcomes can be performed by ocular or plastic surgeons, usually using classic or modified blepharoplasty incisions.

Patients must be warned that the xanthelasma often redevelop after surgery. Mendelson and Masson reported a 40% recurrence rate after primary excision and a 60% rate after a further excision.[12] Recurrence was most likely in the first year (in 26% of cases).[12] MT

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COMPETING INTERESTS: None.