What is Responsible for the Skin Lesions on This Patient's Eyelids?

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A 47-year-old Caucasian man presented with bilateral yellowish skin lesions on the upper eyelids. The lesions developed 3 years ago and gradually increased in size over time.

HISTORY

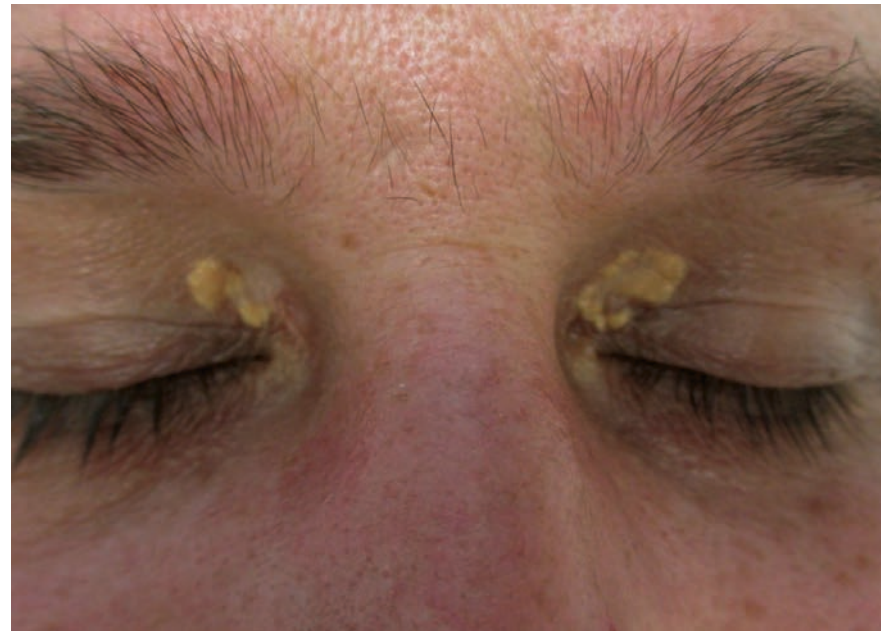
His past health was unremarkable. There is no family history of similar skin lesions, hyperlipidemia, or dyslipidemia.

PHYSICAL EXAMINATION

Physical examination revealed well-demarcated, yellowish plaque on the medial aspects of the upper eyelids. He did not have similar lesions elsewhere. The rest of the physical examination including the ophthalmic and cardiovascular system was normal.

LABORATORY TESTS

Laboratory test results, including serum cholesterol, triglyceride, and lipoproteins were unremarkable.



What's Your Diagnosis?

A. Sebaceous hyperplasia
B. Syringoma
C. Basal cell carcinoma
D. Xanthelasma

Answer: Xanthelasma

DISCUSSION

The patient was diagnosed to have xanthelasma palpebrarum, or simply xanthelasma, which refers to xanthomas that occurs in the eyelids. The term "xanthelasma" is derived from the Greek words *xanthos*, meaning yellow, and *elasma*, meaning a beaten-metal plate or plaque. Xanthelasmas are the most common cutaneous xanthomas.

PREVALENCE

The worldwide reported incidence varies from 0.3% to 1.5%.[1] The age of onset ranges from 15 to 73 years of age, with a peak in the fourth and fifth decade of life.[1] The female to male ratio is approximately 1.8:1.[2] Approximately 50% of affected patients have hyperlipidemia. Familial xanthelama may be a cutaneous marker for underlying dyslipidemia.

Xanthelasma is more common in patients with insulin resistance, diabetes mellitus, cirrhosis, histiocytic diseases (particularly Hand-Schüller-Christian disease), and hypothyroidism.[3]

ETIOPATHOGENESIS

Approximately 50% of affected patients have normal lipid levels. Some of these individuals may have reduced high-density lipoprotein cholesterol, or altered lipoprotein content or structure.[1] Nevertheless, the main type of lipid stored, in both hyperlipidemic and normolipidemic xanthelasmas, is cholesterol.[4]

In hyperlipidemic xanthelasmas, the accumulated cholesterol results from high cholesterol level in the blood, which enters the xanthelasma through the capillary wall. In normolipidemic xanthelasmas, trauma and inflammation may alter vascular permeability, allowing cholesterol to enter the dermis and accumulate in the histiocytes.[5] In this regard, xanthelasmas have been reported, albeit rarely, after infiltration of hyaluronic acid in the superficial dermis of the lower eyelids.[6] As the eyelids are exposed to constant

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What's Your Diagnosis?®

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movement and friction which may increase the capillary leakage of cholesterol, this may account for the occurrence of xanthelamas in the eyelids.[4]

HISTIOPATHOLOGY

Histologically, xanthelasmas are composed of foamy histiocytes mainly in the perivascular area, predominately in the middle and superficial layers of the dermis.[5] The histiocytes contain nonmembrane-bound lipid vacuoles, cholesterol crystals, lysosomes, and the end products of intracellar digestion.[5] The superficial location of foamy histiocytes and absence of fibrosis differentiate xanthelasma from other cutaneous xanthomas.

CLINICAL MANIFESTATIONS

Typically, xanthelasmas present as bilateral, symmetrical, asymptomatic, yellow-orange, macules, papules, or plaques over the eyelids.[1] They are more frequently found on the medial side of the upper eyelids.[1] Rarely, bilateral extensive xanthelamas involving the entire upper and lower eyelids, resembling a pair of circles, have been reported.[2] The lesions are often soft with velvety texture, but can be semi-solid or calcareous. The lesions tend to progress, coalesce, and become permanent.

DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS

The diagnosis is a clinical one. Differential diagnoses include sebaceous hyperplasia, syringomas, cysts, lipomas, and basal cell carcinomas.

COMPLICATIONS

Xanthelasma is cosmetically unsightly and socially embarrassing.[7] The condition has a negative impact on the quality of life and may have psychosocial impact. Xanthelasma, especially associated with hyperlipidemia, is a cutaneous marker for accelerated atherosclerosis and coronary artery disease.[1,3]

TREATMENT

Underlying causes such as hyperlipidemia should be treated if possible. It has been shown that some cases of xanthelasmas might resolve following dietary cholesterol restriction and treatment with oral cholesterol-lowering agents.[8] Treatment of unresolved xanthelasma is mainly for cosmetic purposes. Treatment options include surgical excision, laser therapy, electrocauterization, cryotherapy, and chemical peeling (trichloroacetic acid or bichloracetic acid).[5,7] Recurrence is common, irrespective of the mode of treatment used. If treatment is sought or the diagnosis unclear, referral to a dermatologist is advised. ■

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