Eruptive xanthoma: a rare cutaneous marker of secondary hyperlipidemia

Shah AC1*, Shah MM2, Mahajan RS3, Bilimoria FE4

1,2 Resident, 3 Assistant Professor, 4 Professor & HOD; Dermatology Department, Sumandeep Vidhyapeeth, Piparia, Vadodara-391760, Gujarat, India.

ABSTRACT

Cutaneous manifestations of systemic diseases may be early warning signs or late manifestations of chronic diseases. All practitioners should be familiar with common dermatological symptoms of generalized medical conditions so that the patient may be managed appropriately. Eruptive xanthoma is a papular skin disorder resulting from hyperlipidemia, specifically hypertriglyceridemia. It is characterized by yellowish red papules concentrated on extensor surfaces of the arms and legs. The hyperlipidemia responsible for this disorder can be caused by a primary genetic defect, a secondary disorder, or both. Eruptive xanthomas often rapidly resolve after treatment of the hyperlipidemia has begun (1). We report a case of eruptive xanthoma in a middle aged female patient with small yellow papules about 2 to 5 mm in diameter distributed over the extensor surfaces in association with severe hypertriglyceridemia.

Keywords: Xanthomas, dyslipidemias, eruptive

CASE REPORT

A 55 year old female patient presented to the skin department with complaint of skin lesions over upper and lower extremities since 2 years. The lesions were associated with mild itching. There was history of spontaneous remission and exacerbation of lesions. There was no history of constitutional symptoms (such as fever, weight loss, joint pain, altered visual acuity) associated with the lesions. She had applied multiple topical preparations but to no avail.

Examination revealed multiple yellowish white shiny papules ranging from 2mm-5mm in diameter over extensor aspect of forearms (Figure-1) and lower legs. There were a few scattered lesions over trunks and buttocks. Few lesions over the elbows and knees had coalesced to form nodules and plaques. The palms, soles, scalp & mucosal surfaces were normal.

The patient was subjected to routine blood and urine investigations, lipid profile, liver function test and thyroid profile test. The result revealed normal haemoglobin, total and differential count, blood sugar and liver function tests. However the results of the lipid profile were as follows:

- Serum triglyceride: 1800mg/dl (10-150 mg/dl)
- Total cholesterol: 323mg/dl (below 200 mg/dl)
- HDL cholesterol : 24mg/dl (60 mg/dl & above)
- LDL cholesterol: 210mg/dl (Up to 110 mg/dl)
- VLDL: 60mg/dl (Up to 32 mg/dl)
- HDL/LDL Ratio: 0.11 (Up to 4)

A Skin biopsy was taken from two papules over the buttocks. Routine H&E stain revealed a hyperplastic epidermis with multiple foamy macrophages (lipid laden macrophages) in the dermis and presence of extracellular free lipids and chronic inflammatory cells (Figure-2).

On the basis of the clinical features (multiple yellowish papules), blood investigations (altered lipid profile) and histopathological findings (foamy macrophages and extra cellular free lipid); a diagnosis of eruptive xanthoma was made.
DISCUSSION

Disorders of lipid metabolism are heterogeneous. They may be monogenic or polygenic or paradigms of gene-environment interaction. They are of relevance to dermatologists as they may present with subcutaneous lipid deposits, known as xanthomata.

Xanthomas do not represent a disease but rather are symptoms of different lipoprotein disorders or may arise without any underlying metabolic disease. [2-3]

The WHO classification (Fredrickson classification) of dyslipidemias is based on the class of lipoprotein present in excess (working classification of dyslipidemias).

(Table-1) [2] Clinically, xanthomas can be classified as eruptive, tubero–eruptive or tuberous, tendinous or planar. Eruptive xanthomas are small xanthomas consisting of yellowish papules 2 to 5mm in diameter arising in large numbers over extensor surfaces, particularly the buttocks, back, legs and arms. They may be associated with itching and may even have a more wide spread distribution. [4]

Eruptive xanthomas are always associated with chylomicronemia and are most commonly seen in secondary form of hyperlipoproteinemia. This can be seen in primary genetic disorders such as familial lipoprotein lipase deficiency (type I), apo-C2 deficiency (type I), familial hypertriglycerideremia (type IV) and in familial hypertriglycerideremia with chylomicronemia (type V). They may also appear as cutaneous manifestations of secondary disorders such as obesity, cholestasis, diabetes and as a side effect to certain medications such as: Retinoids, estrogen therapy and protease inhibitors. Eruptive xanthomas may come and go with fluctuation in the chylomicron level in the plasma. The lipids in these lesions are primarily triglycerides. Triglycerides are more rapidly metabolized than cholesterol. This may explain the more transient nature of eruptive xanthomas as compared to other xanthomas. [5-7]

Histopathologically, the most diagnostic finding is the presence of free lipids that have not yet been taken up by macrophages. In the lesions of recent origin, there is an admixture of non foamy cells, lymphocytes, macrophages and neutrophils. Fully developed eruptive xanthomas are rich in foamy cells. Lipid droplets are better stained with scarlet red and Sudan red stain. Formalin fixation and paraffin embedding remove lipids, leaving there shadows behind. [8]

The differential diagnoses to be considered are papules of cutaneous sarcoidosis, interstitial
granuloma annulare and non Langerhans cell histiocytosis.

Treatment of eruptive xanthoma is directed to the underlying causes. Eruptive xanthoma secondary to hypertriglyceridemia typically responds well to dietary control, and thus, a dietician's advice should be sought first. In general, a low carbohydrates and unsaturated fat diet is the first treatment of choice. Anti-hyperlipidaemic agents should be considered when dietary control fails. Our patient was referred to the medicine department for management of hyperlipidaemia where she was started on Tablet Rosuvastatin 20mg with Fenofibrate 160mg daily for 3 months. Her lesions regressed within 3 to 4 weeks of starting treatment.

Patients with eruptive xanthoma need to be investigated thoroughly to rule out primary and secondary causes of hypertriglyceridemia as they are at a risk for both pancreatitis and early coronary artery disease. They benefit from early and intense treatment to lower the triglyceride levels. The treatments for eruptive xanthomas and hypertriglyceridemia are the same and involve rigorous control of the diabetes, a low-fat diet, and pharmaceutical treatment.

REFERENCES.