

Case Report

SKIN—A MIRROR OF METABOLIC DISORDERS—A CASE REPORT

***Lakshmi Shreeya L., Aneesh S., Sujatha Vinod, Soumil Kare,
Swetha Yarramachu and Kindy D.A.S. Newmai**

Department of Dermatology, MVJ Medical College & Research Hospital, Bangalore

**Author for Correspondence*

ABSTRACT

Eruptive xanthomas are caused due to metabolic disorders with mostly hypertriglyceridemia and diabetes mellitus. Characterized by multiple, raised yellowish papular lesions. 35 year old, female patient of Indian origin presented with numerous raised lesions over the arms. Examination revealed multiple yellowish papules over the extensor aspect of bilateral upper limbs. Investigations revealed high triglyceride and blood sugar levels. Histopathological examination revealed foam cells in the dermis. The patient was started on diabetic diet and Gemfibrozil. At the end of three months the number of lesions decreased.

Keywords: *Eruptive Xanthoma, Hypertriglyceridemia, Metabolic Disorders Reflecting on Skin*

INTRODUCTION

Many aspects of dermatologic diagnosis are either of importance or interest to the nondermatologist, as some common systemic diseases have prominent cutaneous findings. Eruptive xanthomas are characterized by the sudden appearance of grouped, yellow-red papules scattered over the trunk, arms, legs and buttocks. The condition is associated with the markedly elevated serum triglyceride levels that occur with hyperlipidemia syndromes (i.e., Fredrickson-Levy types I, IV and V) or with diabetes mellitus, hypothyroidism, obesity, pancreatitis, nephrotic syndrome, cholestatic liver disease, dysglobulinemia and as an adverse effect of using certain medications (e.g., estrogens, corticosteroids, systemic retinoid agents).

CASES

A 35year old female patient presented with multiple small, raised yellow lesions over both forearms since 2-3 months. She gives no history of itching or similar lesions elsewhere on the body. She is a known case of type2 Diabetes mellitus since 5years, and is on oral hypoglycemics. She gives no history of any other drug intake, no recurrent abdominal pain. No similar complaints in the family. On general examination her vitals are stable, weight-64kgs and her BMI is 28. On cutaneous examination there were multiple, discrete, yellow papules about 2-3mm present over the extensor aspect both the upper limbs (Figures 1 & 2).



Figure 1 & 2: Multiple skin coloured to yellowish papules over the extensor aspect of left upper limb

Case Report

Ophthalmic examination had no abnormality. On investigating her Routine blood investigations were within normal limits. Her FBS-294mg/dl, PPBS-374mg/dl. Liver function and renal function tests were within normal limits. Her lipid profile (Figure 3) showed high Triglycerides-6952(upto 150mg/dl), Total cholesterol - 634(upto 200mg/dl), HDL cholesterol-166(30-60mg/dl). Serum calcium-10.1 mg/dl.Serumamylase 36(25-100U/L).

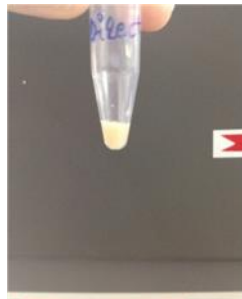


Figure 3: Serum plasma on standing after 24hours

Thyroid profile was normal. Ultrasound of abdomen and pelvis showed fatty liver and Mildsplenomegaly. ECG showed non-specific T-wave changes. In histopathology, there was atrophy of epidermis, Aggregate of histiocytes, lymphocytes and foamy cells were seen in dermis. Mild to moderate perivascular lymphocyte infiltrate was seen (Figure 4).

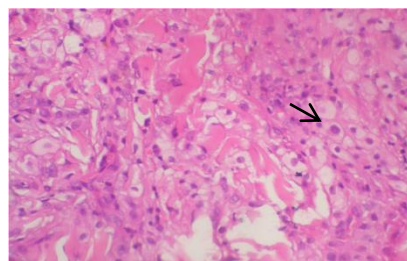


Figure 4: Presence of Foam cells in dermis

DISCUSSION

Table 1: WHO/Fredrickson's classification of hyperlipoproteinemia/hyperlipidemia

| Lipoprotein pattern | Major elevation | in plasma | Electrophoretic mobility |
|---------------------|------------------------------|-------------------------------|----------------------------------|
| | Lipoprotein | Lipid | |
| Type 1 | Chylomicrons | Triglycerides | Remains at origin (chylomicrons) |
| Type 2a | LDL | Cholesterol | Pre-B (VLDL) |
| Type 2b | LDL and VLDL | Cholesterol & triglycerides | Pre-B (VLDL) |
| Type 3 | Chylomicron remnants and IDL | Triglycerides and cholesterol | Slow Pre-B (IDL) (Broad beta) |
| Type 4 | VLDL | Triglycerides | B (LDL) |
| Type 5 | VLDL and chylomicrons | Triglycerides and cholesterol | Chylomicrons, B (LDL) |

Case Report

Xanthomatosis is a cutaneous manifestation of lipodosis in which plasma lipoproteins and free fatty acids are qualitatively and quantitatively altered, resulting in a morphologic changes as lipids accumulate in foam cells in the tissues. The classification of hyperlipidemias (Table 1) is based on clinical assessment, levels of fasting plasma lipids, the electrophoretic pattern, and the hydrated density of plasma lipoproteins, and is divided into six types. Hyperlipoproteinemias are disturbances of lipid transport of cholesterol and triglycerides through plasma that result from accelerated synthesis or retarded degradation of lipoproteins.

These can be classified into- Primary: due to genetic diseases; Secondary: due to various systemic diseases. A xanthoma is an uncommon presentation of a generalized or localized disturbance of lipid metabolism. They are of the following types- Eruptive xanthomas, Plane xanthomas, Xanthoma Palpebrarum, Tuberous Xanthomas, Nodular Xanthomas, Tendinous Xanthomas, Generalized Plane Xanthomas, XanthomaDisseminatum. Eruptive Xanthoma lesions are pinhead-sized or large, reddish-brown or yellow papules with a reddish halo or base. They occur suddenly at any site, commonly favour buttocks, flexor surfaces of the arms, shoulders, thighs, knees, inguinal and axillary folds, or entirely localized at a point of pressure. Inflammatory character resolves and waxy yellow papules remain during resolution. Lesions may be fleeting in nature and occur in crops. Usually associated with pure or mixed hypertriglyceridemia and a high concentration of VLDL or CMs. Usually associated with Fredrickson type 1, 5 and less commonly type 4. Seen in secondary hyperlipidemia, together with insulin-dependent diabetes mellitus, obesity, pancreatitis, chronic renal failure, hypothyroidism and treatment of oestrogens, corticosteroids, retinoids or HAART.

Conclusion

This case is being presented to highlight the fact that very minute cutaneous lesions can point to a severe metabolic disorder.

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