

## **Eruptive Xanthoma in Pregnancy Induced Hyperlipidemia**

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**A thirty-year-old Syrian lady (gravida 10, para 7 and abortion 2) presented to dermatology clinic at 28 weeks gestation. She gave history of itching for 10 days associated with rash all over her body. The rash consisted of 3-6 mm yellowish erythematous papule with erythematous border. The eruption is more on the abdomen, the back and extensor surfaces of elbows and knees.**

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Eruptive xanthomas which arise in the setting of elevated levels of chylomicrons are associated with hypertriglyceridemia particularly that associated with type I, IV, and V. They may also appear in secondary hyperlipidemia, particularly in diabetes, alcohol dependence, medication use (olanzapine), antipsychotic agents and familial hyperlipidemia<sup>1-4</sup>.

Eruptive xanthomatosis is a papular skin disorder resulting from hyperlipidemia, specifically hypertriglyceridemia. It affects mainly the extensor surfaces of the arms and legs; the lesion is usually consisted of clusters 3 to 6 mm yellowish red papules. The hyperlipidemia might be due to a primary genetic defect<sup>5</sup>. A diagnosis of eruptive xanthomas is usually made based on clinical, laboratory and histopathologic findings.

The aim of this report is to present unusual case of eruptive xanthoma associated with pregnancy induced hyperlipidemia.

### **THE CASE**

A Syrian lady presented to dermatology clinic with 10 days history of itching and rash. She was 38 years old, gravida 10, para 7, abortion 2, pregnant 28 weeks; she was a known case of gestational diabetes. Her gestational diabetes was on diet control.

The rash started in the abdomen, then spread to involve the back, elbows and knees. It was associated with mild itching. There was no history of fever or abdominal pain.

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On examination, the eruption consisted of 3-6 mm yellowish to erythematous papule with erythematous border. It was distributed on the back, abdomen, elbows and knees. There were no jaundice, no mucous membrane involvement and no hepatosplenomegaly, see figure 1 (a,b,c).



**Figure 1(a)**



**Figure 1(b)**



**Figure 1(c)**

**Figure 1 (a,b,c): Eruptive Xanthoma: Yellowish to Erythematous Papule with Erythematous Border, (a) Extensor Surface of the Upper Limb, (b) Extensor Surface of the Lower Limb, (c) Abdominal Surface**

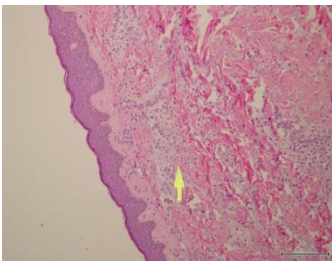
Laboratory testing revealed cholesterol of 43 mmol (3.8-5.2) and triglyceride 161 mmol (0.1-2.3), thyroid function test was normal, HbA1c = 5.06% (4.5-5.9%) and fasting blood sugar 13.6 mmol (3.1-6.4).

She was referred to the endocrine service for further opinion and management. She was admitted and managed with strict low fat diet, intravenous fluid, insulin sliding scale, daily blood test for electrolyte, urea, creatinine, fasting lipid, liver function test and amylase. She was discharged on insulin (glargine) and heparin subcutaneous injection (Clexane).

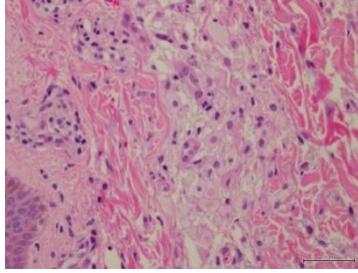
A punch biopsy showed a collection of foamy macrophages in the interstitium as well as the perivascular area. Mild lymphocytic infiltrate and occasional neutrophilic inflammatory cell infiltrate were seen diffusely in the interstitium.

Low power view revealed cluster of foamy macrophages in the upper and lower portion of the dermis (H&E) stained slides, see figures 2 and 3.

Based on the clinical presentation and skin eruption and the histopathology report, the patient was diagnosed as eruptive xanthoma.



**Figure 2: Low Power, Cluster of Foamy Macrophages in the Upper and Lower Portion of the Dermis (H&E)**



**Figure 3: High Power View, Cluster of Foamy Macrophages in the Upper Dermis (H&E) Stained Slides**

## DISCUSSION

Hyperlipidemia could present with skin deposits of many types called xanthomas<sup>6</sup>. Xanthomas are lesions characterized by accumulation of lipid laden macrophages. There are several subtypes of xanthomas categorized according to their location, causes and presentation.

Eruptive xanthoma is one of the subtypes characterized by crops of yellowish to erythematous papule with erythematous rim, typically forming on the extensor surfaces of the upper and lower limbs and buttocks<sup>7</sup>. Eruptive xanthoma can be diagnosed by clinical examination, laboratory and skin biopsy<sup>8</sup>.

The most important is lipid profile, amylase level, blood sugar and skin biopsy to identify the type of xanthomas.

Plasma triglycerides increase two-fold to four fold in pregnancy<sup>9</sup>. During pregnancy, an increase in estrogen level results in an increase in hepatic VLDL synthesis and decrease in lipoprotein lipase activity.

The level of triglycerides, total cholesterol, HDL and LDL increased when pregnancy progressed.

A similar case was reported by mCansu et al in 2012, where a 33-year-old woman, 10 weeks pregnant, a known case of hypertriglyceridemia on fenofibrate before pregnancy and continued till 8 weeks of pregnancy<sup>10</sup>. The patient had gestational diabetes managed by diet control; she was given insulin NPH 10 UNITS twice a day for hyperlipidemia. She gave birth to a normal male. Compared to our case, we have used Glargine while in the previous case they used NPH insulin.

Early treatment is the key factor to successful outcome. Pregnant women with hyperlipidemia may develop acute pancreatitis which is associated with maternal death and fetal loss<sup>11</sup>.

Plasmapheresis in pregnant women with hyperlipidemia-induced pancreatitis may improve the clinical course as plasma exchange can reduce lipid level dramatically<sup>11</sup>.

## CONCLUSION

**We report a case of 28 weeks pregnant patient with eruptive xanthoma secondary to pregnancy induced hyperlipidemia which responded very well to insulin treatment.**

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