

Case Series

Case series: eruptive xanthomas and hyperlipidaemia

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ABSTRACT

Eruptive xanthomas are uncommon with only case reports documented making it difficult to have a prevalence figure. These asymptomatic eruptions are usually a clue to an underlying metabolic disorder with associated cardiovascular risk. Early diagnosis and treatment prevent its associated morbidity and mortality. We present a case series of 2 males (29 and 40 years) and 3 females (14, 28 and 40 years old). They presented with lesions clinically consistent with eruptive xanthomas. Laboratory and histologic investigations revealed dyslipidemia and lipid laden macrophages. They were placed on statins with an improvement of skin lesions and improvement in lipid levels. Dermatologists should be aware of skin lesions as a marker of severe dyslipidemia and its attendant cardiovascular risk. Early treatment leads to resolution of xanthomas and prevention of cardiac related morbidity and mortality.

Keywords: Xanthomas, Eruptive, Hypertriglyceridaemia, Dyslipidaemia

INTRODUCTION

Xanthomas are localized growths in the skin due to the accumulation of lipids in macrophages as a result of hyperlipidaemia which can be a high cholesterol or a high triglyceride.^{1,2} Recognition of these lesions is important due to the metabolic diseases and cardiovascular risk attached to their occurrence.¹ Clinically, xanthomas are yellowish macules, dome-shaped papules, plaques and nodules.^{1,2}

Xanthomas tend to occur on the extensor surfaces of the extremities, palmar surface and web spaces of the hands, trunk, gluteal region and Achilles tendon.^{2,3} The location of the xanthomas gives a guide to the type of hyperlipidaemia including eruptive xanthomas.^{2,4}

Eruptive xanthomas occur suddenly as multiple yellow, papules on the extensor surfaces of the upper and lower limbs, buttocks, and hands, measuring 1 mm to 4 mm.^{1,5,6} They are mostly asymptomatic but pain and Koebner

reaction have been reported.^{6,7} The papules and nodules of eruptive xanthomas usually appear within three weeks of increase in plasma triglycerides.²

We present 5 cases of eruptive xanthomas with associated dyslipidaemia. All the cases were seen at the outpatient dermatology clinic of the Lagos state University Teaching Hospital.

CASE SERIES

Case 1

A 29 year old male presented with sudden onset of multiple asymptomatic papules on his elbows and hands 3 years prior to presentation at the clinic. He had no significant medical nor family history. Clinical examination revealed, an overweight male with a body mass index (BMI) of 27.8 kg/m², multiple yellowish papules and plaques on the extensor surface of his elbows, palmar and dorsal surfaces of both hands measuring 3-6

mm (Figure 1 and 2). Blood pressure was 134/82 mmHg. A clinical diagnosis of eruptive xanthoma was made.



Figure 1: Eruptive xanthoma on palmar surface of hands.



Figure 2: Eruptive xanthoma on both elbows.

Laboratory investigation results were as follows: normal fasting blood glucose (FBS), 74mg/dl, and normal chest radiograph. A high total cholesterol of 243 mg/dl, high triglycerides 342 mg/dl, normal high-density lipoprotein (HDL) 54 mg/dl, normal low-density lipoprotein (LDL) 121 mg/dl and a very low-density lipoprotein (VLDL) 68 mg/dl. Histopathology report of lipid laden macrophages in the dermis with admixed lymphocytes, some arranged as nodules, consistent with xanthomas.

He was placed on a statin with almost complete resolution of his lesions (Figure 3), a reduction of his triglyceride and VLDL levels 4 months later. His repeat lipid levels were as follows; total cholesterol 227 mg/dl, triglycerides 194 mg/dl, HDL of 50 mg/dl, LDL of 138 mg/dl and VLDL) 39 mg/dl.



Figure 3: Resolution of eruptive xanthoma on palmar surface of hands following treatment.

Case 2

A 40 year old male presented with multiple asymptomatic, symmetrical papules on both elbows, both knees, palmar surface of both hands of sudden onset three years before coming to the clinic. He had no significant medical, social nor family history.

On examination, he was obese with a BMI of 35.4 kg/m². He had multiple yellowish papules and plaques on the extensor surface of his elbows and knees, palmar surfaces of both hands measuring 3-6 mm (Figures 4 and 5). His blood pressure was 134/82 mmHg. A clinical diagnosis of eruptive xanthoma was made.



Figure 4: Yellowish papules of xanthoma.



Figure 5: Papules of xanthoma.

Laboratory investigations: a normal FBS of 114 mg/dl, high total cholesterol 831.8 mg/dl, high triglycerides 1017 mg/dl, high HDL of 64.2 mg/dl, high LDL of 564 mg/dl, high VLDL of 203.4 mg/dl. Histology report was of lipid laden macrophages in the dermis. He was placed on a statin. This patient has not been seen in the clinic despite adequate counselling.

Case 3

A 40 year old female presented with multiple asymptomatic, papules on the face beneath both lower eyelids and malar regions over a 4 month period. She had no significant medical, social nor family history. Clinical evaluation showed an overweight lady with a BMI of 30.7 kg/m² multiple symmetrically distributed papules on the face beneath both lower eyelids and malar regions. Her

blood pressure was 110/60 mmHg. A clinical diagnosis of xanthoma was made.

Laboratory investigations: normal FBS of 81 mg/dl, high total cholesterol of 336 mg/dl, high triglyceride of 161 mg/dl, high HDL of 75 mg/dl, high LDL of 229 mg/dl, normal VLDL of 32 mg/dl. Biopsy report was consistent with xanthoma with lipidized histiocytes.

Case 4

A 14 year old girl with a history of multiple asymptomatic lesions on the elbows from age 9 years now involving the knees, elbows, hands and face. Main reason for clinic attendance was the recent increase in number of lesions. Clinical evaluation showed a young girl with a BMI of 14.2 kg/m², multiple symmetrically distributed yellowish/brownish papules on upper eyelid, webs of fingers and toes, elbows and blood pressure was 110/60 mmHg. A clinical diagnosis of xanthoma was made.

Laboratory investigations: normal FBS of 76 mg/dl, high total cholesterol 826 mg/dl, normal triglycerides 103 mg/dl, normal HDL of 42 mg/dl, high LDL of 763 mg/dl, normal VLDL of 21 mg/dl. Biopsy report was consistent with xanthoma, lipidized histiocytes.

Case 5

A 28 year old woman with a three months history of multiple skin rashes on both hands, elbows and the knees. Lesions were pruritic and painful. Clinical evaluation revealed a BMI of 24 kg/m², crops of yellowish and tender papules on the hands, elbows and knees, blood pressure of 110/80 mmHg. A clinical diagnosis of eruptive xanthomas was made. Lipid profile showed markedly elevated total and high LDL of 781 mg/dl and 707 mg/dl respectively, normal triglycerides and HDL of 123 mg/dl and 54 mg/dl respectively. Histopathology of lesions, confirmed lipid laden macrophages of xanthomas. She was commenced on a statin and dietary management with relief of pain, pruritus and itching and regressing of lesions.

DISCUSSION

We have described 5 cases of eruptive xanthomas with associated dyslipidemia indicating that these asymptomatic skin eruptions can be a pointer to a cardiovascular risk. Eruptive xanthoma occur as a result of hyperlipidaemia as demonstrated in these patients.^{2,3,5,6} Severe hypertriglyceridemia can be due to an acquired hyperchylomicronemia, diabetes mellitus, obesity, drugs such as isotretinoin, nephrotic syndrome, pancreatitis or an inherited lipoprotein disorder (Fredrickson type I, IV and V).^{2,4-6,8}

The aetiology of eruptive xanthoma is attributed to hypertriglyceridaemia as was noted in our patients.^{2,4-6,8} Eruption of these xanthomas was sudden with the

development of yellowish papules and plaques on their extremities in keeping with the reported areas of occurrence of eruptive xanthomas.^{1,2,5,6} The commencement of statins led to a reduction of triglyceride levels and resolution of the xanthomatous lesions in the 2 patients that we could follow up unlike the case reported by Aljenedil et al.⁹ Eruptive xanthomas though mostly asymptomatic can be associated with pain as was reported by one of the patients.^{6,7}

This case report highlights the role of dermatologists in recognizing skin signs of an internal disease and the benefit to patients from appropriate timely, diagnosis and treatment.

CONCLUSION

Eruptive xanthomas can be the first sign of severe dyslipidaemia. Early treatment leads to resolution and prevention of adverse cardiovascular outcomes.

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