Eruptive xanthomas are lipid deposits in the skin that result from an increase in plasma triglycerides. Eruptive xanthomas appear as small, grouped, yellow-tan papules on an erythematous base. The papules range in size from 1mm to 2.5mm in diameter and frequently develop on the buttocks, elbows, back, and knees, though they can occur on any cutaneous surface including the oral mucosa.1,2 Eruptive xanthomas can arise in linear array (Koebner phenomenon) at sites of local trauma.3 Lesions generally develop when plasma triglycerides exceed 1500mg/dl and recede when triglyceride levels fall.1 The cause may be familial as in the hyperlipoproteinemias or, as in this case, secondary to uncontrolled diabetes.1,2 Histologically, these xanthomas typically contain extracellular lipids and a sparse lymphocytic infiltrate.3 Pruritus is common, and the lesions may be tender.

Case Report
A 42-year-old morbidly obese caucasian male was admitted in diabetic ketoacidosis with severe abdominal pain. He had a four-week history of erythematous, grouped papular lesions, which appeared in crops and were most prominent on extensor arms, legs, and back. He denied pruritus or pain. The patient had been non-compliant with his oral hypoglycemic medications for nine months. He denied alcohol abuse. There was no family history of hypertriglyceridemia or diabetes mellitus. Physical examination revealed a morbidly obese male with a body mass index (BMI) of 41 with diffuse yellowish, non-tender, soft papules distributed over the neck, shoulders, back, elbows, knees and left foot. (Figure 1) Lipemia retinalis was noted on fundoscopy. There was no evidence of xanthelasma or tuberous xanthoma. Hepatosplenomegaly was also present.

Laboratory findings included a grossly lipemic serum with markedly elevated serum triglycerides 5870mg/dl (nl values 35-160mg/dl); total cholesterol 620mg/dl (nl values <200mg/dl); glucose 380mg/dl (nl values 70-115mg/dl); ketones 80mg (nl value 0mg); glycosylated hemoglobin A1c 15.9% (nl values 5-7.5%); lipase 2740 (nl values 10-140U/l); and amylase 1804 (nl values 25-125U/l). Arterial blood pH on admission was 7.18 (nl values 7.35-7.45), and he was found to be in metabolic acidosis. Abdominal ultrasound showed hepatic steatosis and a diffusely enlarged pancreas suggestive of pancreatitis.

Punch biopsy of the right shoulder was performed. Histopathological examination of the specimen showed a dermal infiltrate composed of numerous, large foamy histiocytes surrounded by macrophage in the superficial dermis. (Figure 2) A diagnosis of pancreatitis and eruptive xanthoma secondary to hypertriglyceridemia was made.

Discussion
Eruptive xanthomas are a classic skin sign of systemic disease.4 This condition is strongly associated with hypertriglyceridemia and secondary hyperlipidemias, particularly in diabetes.1 The lipid pattern in type 1 diabetics is largely related to glycemic control. Poor glycemic control is associated with hypertriglyceridemia and, in some patients, high serum low-density-lipoprotein (LDL) cholesterol and low HDL-cholesterol concentrations.5
In type 2 diabetes, insulin resistance, relative insulin deficiency, and obesity are associated with hypertriglyceridemia.\(^1,2\) Hypertriglyceridemia results from both increased substrate availability (glucose and free fatty acids) and decreased lipolysis of very-low-density-lipoprotein (VLDL) triglyceride. This pattern of lipid abnormalities can be detected before the onset of overt hyperglycemia and is thought to be due to hyperinsulinemia. Reported etiologies for eruptive xanthomas (hypertriglyceridemia) include hypothyroidism, ingesting excessive alcohol (alcohol abuse), glucocorticoids, hereditary and hepatic diseases such as obstructive liver disease and cirrhosis, thiazides, retinoids, idiopathic, glucose (diabetes mellitus), and lipid nephrosis. A mnemonic is useful to recall these etiologic conditions (Table 1).

Complete regression of the cutaneous lesions correlates with lowering triglyceride levels after dietary restriction, medical management of diabetes, and administration of lipid lowering agents. Refractory xanthomas can be treated with surgical excision or other destructive methods, such as CO\(_2\), pulsed-dye, or Er:YAG laser surgery, chemical agents such as trichloroacetic acid, and cryosurgery.\(^3\) It is important to recognize eruptive xanthomas, confirm the presence of elevated triglycerides, and immediately institute treatments to lower triglycerides in order to prevent pancreatitis and its associated chronic sequelae.

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