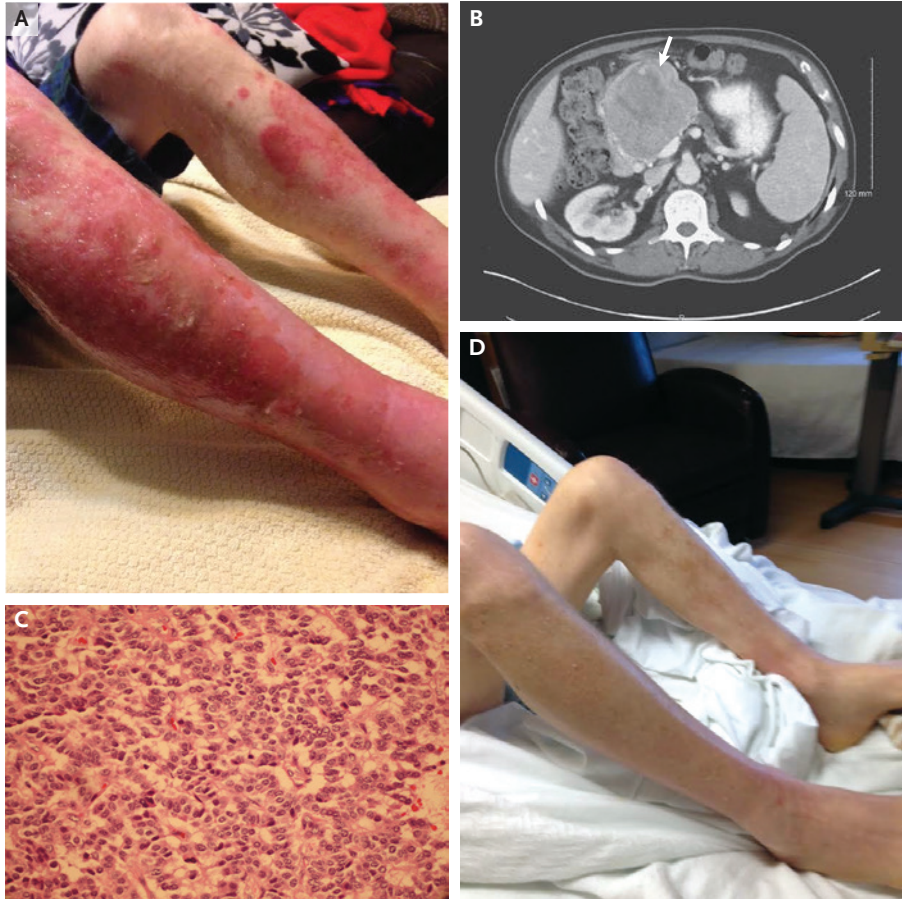


## IMAGES IN CLINICAL MEDICINE

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## Glucagonoma-Associated Rash



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**A** 65-YEAR-OLD MAN WITH TYPE 2 DIABETES AND DETERIORATION OF GLYCEMIC CONTROL PRESENTED with a 2-to-3-month history of weight loss (7 to 8 kg), early satiety, and mild flank pain. Before the occurrence of these symptoms, a rash had developed over the course of 3 to 4 weeks. The rash involved the arms, genitals, and buttocks and had progressed to the legs (Panel A). Laboratory evaluation at presentation revealed severe hyperglycemia (glucose level, 982 mg per deciliter [55 mmol per liter]). Computed tomography of the abdomen showed a 9-cm mass arising from the pancreatic head (Panel B, arrow). The fasting serum glucagon level was 530 pg per milliliter (normal value,  $\leq 80$ ). A pancreaticoduodenectomy was performed, and pathological examination of excised tissue revealed a well-circumscribed, low-grade neuroendocrine neoplasm that was consistent with a glucagonoma (Panel C). No signs of metastatic disease or invasion into adjacent structures were observed. Within 5 days after surgery, the rash on the legs began to resolve (Panel D), and a repeat fasting glucagon level was 39 pg per milliliter. The patient was discharged home with insulin therapy, and no signs of recurrent disease were observed 1 year later. Glucagonomas are rare neuroendocrine tumors that can cause migratory rash, weight loss, and worsening glucose intolerance.

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