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# Grey-Turner's Sign Radiological Equivalent at Computed Tomography in Acute Pancreatitis

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## Abstract

In case of acute pancreatitis, the radiological equivalent of Grey-Turner's sign, even in absence of its clinical appearance, can be detected by Computed Tomography (CT) as a necrotic-hemorrhagic collection in the subcutaneous space of the flank. It is correlated with a high severity of the disease.

## Introduction

Subcutaneous ecchymosis, referred as Grey-Turner's sign, in the flank and Cullen's in the periumbilical region, although pathognomonic, are seldom observed at the clinical examination in case of acute pancreatitis (1). In particular, it is admitted that the Grey-Turner's sign follows a hemorrhagic collection, rich in pancreatic enzymes, in the anterior pararenal space, while the

corresponding Cullen's sign is secondary to tracking of fluids of pancreatic origin through the gastro-hepatic and falciform ligaments towards the navel (2). These signs indicate the severity of the disease.

A case, in which the Grey-Turner's sign was absent at the clinical examination during the entire course of the disease, although it could be clearly recognized by helical CT, has been observed and reported later.

## Case Report(s)

An obese Italian woman 90 years old, 3 days after an excessively abundant meal, was admitted with severe signs of acute pancreatitis (APACHE II score=15). Both the Grey-Turner's and Cullen's signs were absent at the clinical examination on admission and also subsequently. A helical CT demonstrated only a swollen pancreas, but with fluid collections extending outside its capsule towards the retroperitoneum, especially on the left side, in the anterior perirenal space, the paracolic gutter and in the flank, where a large area of increased density could be observed. Fluid around the liver and the spleen, in the lesser cavity and in the Douglas pouch

was present. Besides, it was found a bilateral pleural effusion, more evident on the left side. (Illustration 1).

Five days after, a laparotomy confirmed a severe pancreatitis, with necrosis and fluid collections inside and outside the pancreatic capsule, extending in the retroperitoneum especially towards the left flank.

A second helical CT, ten days from the admission, clearly showed a diffuse necrosis of the entire pancreatic gland, with necrotic fluid collections extending outside, in the lesser sac, and always towards the left flank with a persistent large subcutaneous hyperdense infiltration (Illustration 2).

The patient died in the 15<sup>th</sup> post operative day because of multiple organ failure.

## Discussion

Our observation confirms the great value of CT for the diagnosis and staging of acute pancreatitis, demonstrating also the possible early extrapancreatic extension of the necrosis (3,4,5,6,7). For this purpose, we think that the precocious recognition of the radiological equivalent of the Grey-Turner's sign is useful, even in absence of cutaneous signs and especially at the beginning of the disease, when, the pancreatic gland can demonstrate only edematous lesions.

## References

1. Fox J.A. A diagnostic sign of extraperitoneal haemorrhage *Br J Surg* 1966; 53:193-95.
2. Bem J., Bradley E.L. Subcutaneous manifestations of severe acute pancreatitis. *Pancreas* 1988;16: 551-5.
3. Meyers M.A., Feldberg M.A., Oliphant M. Grey-Turner's sign and Cullen's sign in acute pancreatitis. *Gastrointest Radiol* 1989; 14:31-7.
4. Sugimoto M., Takada T., Yasuda H., Nagashima I. et al. MPR-hCT imaging of pancreatic fluid pathway to Grey-Turner's and Cullen's sign in acute pancreatitis. *Hepatogastroenterology* 2005; 52:1613-6.
5. De Waele J.J., Delrue L., Hoste E.A., DE Vos M. et al. Extrapancreatic inflammation on abdominal computed tomography as an early predictor of disease

severity in acute pancreatitis. Evaluation and a new scoring system. *Pancreas* 2007 ;2: 185-90.

6. Delrue L.J., De Waele J.J., Doyck Ph.O. Acute pancreatitis: radiological score in predicting severity and outcome. *Abdom. Imaging* 2010; 35 : 349-61.

7. Morgan D.E. Imaging of acute pancreatitis and its complications. *Clin. Gastroenterol. Hepatol.* 2008;6:1077-85.

## Illustrations

### Illustration 1

Axial helical CT at hospital admission. The pancreas appears edematous with fluid exsudation towards the left anterior pararenal space. In the subcutaneous tissue of the left flank a large hyperdense area, corresponding to a necrotico-hemorrhagic suffusion.



## Illustration 2

A control helical CT without contrast enhancement 8 days later. The area of subcutaneous necrotico-hemorrhagic suffusion in the left flank appears more dense, while the whole pancreatic gland has fuzzy contours, together with diffuse peripancreatic edema and exudation.



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