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**Figure 1.** Periumbilical ecchymoses.

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An 82-year-old man was admitted to our emergency department with pain in the right upper abdomen and lower back. His physical examination showed tenderness in the right upper abdomen, with normal bowel sounds. The patient's medical history was significant for arterial hypertension and endovascular repair of an abdominal aortic aneurysm 4 years ago, and his previous pharmacologic therapy contained acetylsalicylic acid and atenolol. His laboratory findings were significant only for mild anemia. As the patient became hypotensive, both drugs were discontinued and he was transferred to the ICU, where he was treated with catecholamines. Initial computed tomography (CT) of the abdomen revealed right perirenal hematoma caused by ruptured renal cyst, which was treated conservatively. Five days after admission, ecchymoses in the periumbilical region and the flanks were noted (Figures 1 and 2).



**Figure 2.** Periumbilical and flank ecchymoses. Used with permission of Marco Bonani, MD, Department of Internal Medicine, Hospital of Zollikerberg, Switzerland.

*For the diagnosis and teaching points, see page 458.*

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## Patient Support Services

[Ann Emerg Med. 2008;51:458.]

ACEP supports hospitals' development of resources that improve emergency department patients' access to outpatient community health and support services.

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### IMAGES IN EMERGENCY MEDICINE

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#### DIAGNOSIS:

*Cullen's sign and Grey-Turner's sign.* In 1918, Thomas Cullen was the first to describe a periumbilical ecchymosis in a patient with a ruptured extrauterine pregnancy. It was the British surgeon Grey-Turner who reported 1 year later a reddish-blue discoloration of the loin as a sign of acute pancreatitis.

Both clinical signs have been described in a wide range of conditions leading to retroperitoneal hemorrhage or hemoperitoneum.<sup>1-3</sup> In acute pancreatitis, Cullen's and Grey-Turner's signs occur in 1% to 3% of patients and predict a high mortality.<sup>1,3,4</sup>

The anatomic pathway of fluid leading to ecchymosis in the periumbilical region and the flank could recently be demonstrated by multiplanar reformation images obtained by helical CT.<sup>4</sup> Either of the 2 signs appear 2 to 7 days after presentation of symptoms and indicate a subacute intraabdominal pathology.<sup>4</sup>

In our patient, a perirenal hematoma caused by spontaneous ruptured renal cyst led to the appearance of Cullen's and Grey-Turner's signs. However, fatal hemorrhage caused by ruptured solitary renal cyst was described recently.<sup>5</sup> To our knowledge, it is the first reported presentation of these signs in this context.

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