An 87-year-old man with an extensive past medical history was admitted for evaluation of intermittent hemoptysis of 1 month's duration. During the hospitalization, he developed a large, subcutaneous bleed (Figure 1) after venipuncture. The patient had a known, expanding thoracic aortic aneurysm (Figures 2 and 3), and laboratory studies were consistent with an intravascular, consumptive coagulopathy. The patient’s comorbidity precluded possible aneurysmectomy.

Patients with large thoracic aortic aneurysms may develop a coagulopathy resulting from localized, intraluminal activation and consumption of clotting factors. Consumptive coagulopathy also can occur with extrathoracic aneurysms, as well as stasis-prone, vascular tumors, including giant hemangiomas of infancy (Kasabach-Merritt syndrome) and liver hemangiomas. The severity of the coagulopathy correlates with the degree of luminal expansion and dissection. The pathogenesis is believed to involve the local release of thromboplastin, as well as contact activation of clotting factors by subendothelial procoagulant substances, locally deposited red cell fragments, and platelet aggregates. Complete resolution of coagulation abnormalities is seen after aneurysm resection. It is unclear whether patients benefit from the preoperative use of heparin or plasma.

Figure 1. Large, left forearm hematoma developing at site of prior venipuncture.
Figure 2. Chest x-ray shows a thoracic aortic aneurysm obscuring the left upper hemithorax.

Figure 3. CT image of aneurysm seen in Figure 2. The aneurysm measures 12 cm posteroanteriorly and 11 cm laterally, with pleural effusion (black arrowhead), suspicion of a contained rupture, and left mainstem bronchus erosion.