

POSTOPERATIVE COUGHING AND RECTUS SHEATH HEMATOMA

To the Editor:

I read with interest the recent case report, "Rectus Sheath Hematoma: Review of an Uncommon Surgical Complication," by Drs. Perry and Phillips in the September 2001 issue of *Hospital Physician*,¹ which reviewed the pathogenesis of rectus sheath hematomas. I agree that diagnosing this entity is very difficult and is often only accomplished with the aid of computed tomography or ultrasonography or by surgical exploration. My colleagues and I recently treated a 13-year-old boy with a spontaneous rectus sheath hematoma that was preoperatively misdiagnosed as an acute appendix.

I disagree with the authors' conclusion, however, that the case patient's cough led to bleeding and the formation of a hematoma. Coughing and bucking upon emergence from general anesthesia is not uncommon with the stimulation of an endotracheal tube in a lightly anesthetized patient. In fact, postoperative coughing is usually encouraged as part of good pulmonary toilet. Postoperative formation of a palpable hematoma, together with a decrease in hematocrit to 19%, is secondary to poor intraoperative hemostasis and nothing else. With a low transverse incision, the most likely cause was an unrecognized injury to the inferior epigastric vein at the lateral margins of the incision.

Surgeons in training should keep in mind the power of a Bard-Parker surgical blade in causing blood loss and encourage postoperative coughing in their patients.

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In reply:

Dr. Bradley's response emphasizes several valuable points. Hemorrhage of the rectus muscle can cause severe abdominal pain, mimicking intra-abdominal pathology. As Dr. Bradley suggests, radiographic imag-

ing can be helpful in these difficult clinical scenarios. Pulmonary toilet is an important part of postoperative care, and patients should be encouraged to cough. The rectus hematoma presented in the case report¹ was likely the result of incomplete hemostasis of the epigastric artery, veins, or perforating branch vessels supplying the rectus muscle and overlying soft tissue.

However, the increased pressure and movement of the rectus muscle associated with coughing or any strenuous activity occurring immediately after the surgical procedure may have exacerbated the hemorrhage in the case patient. The discussion section emphasizes the fact that the rectus muscle is highly mobile in relationship to the epigastric arteries and veins in the area below the tendinous inscriptions and arcuate line. This mobility, associated with calcified vessels, trauma, hypertension, coughing, and anticoagulation, is often associated with rectus sheath hematomas.

The postulated mechanism is that the perforating muscle branches of the nonmobile epigastric vessel are rapidly stretched in relationship to the main epigastric artery or vein with the onset of brisk rectus movement. This abrupt stress may tear the perforating muscle branches from the main epigastric artery or vein. Bleeding occurring above the arcuate line will often tamponade because of the posterior rectus sheath, but extensive hemorrhage below the arcuate line is common, as described in the article.¹ I would like to thank Dr. Bradley for his inspired remarks and *Hospital Physician* for the opportunity to respond.

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Reference

1. Perry CW, Phillips BJ. Rectus sheath hematoma: review of an uncommon surgical complication. *Hosp Physician* 2001;37(9):35-7, 56.