

**Figure 17.** Focal adenomyosis associated with a fibroid. **(a, b)** Gray-scale **(a)** and color Doppler **(b)** images show an echogenic, poorly defined mass (arrows) with penetrating vessels. **(c, d)** Gray-scale **(c)** and color Doppler **(d)** images show a hypoechoic well-defined mass (arrows) with draping peripheral vessels. **(e)** Sagittal T2-weighted turbo spin-echo (4900/120) MR image demonstrates both a fibroid (arrow) and adenomyoma (arrowheads).

The overall sensitivity of MR imaging in the diagnosis of adenomyosis is 88%–93%, specificity is 66%–91%, and accuracy is 85%–90% (29).

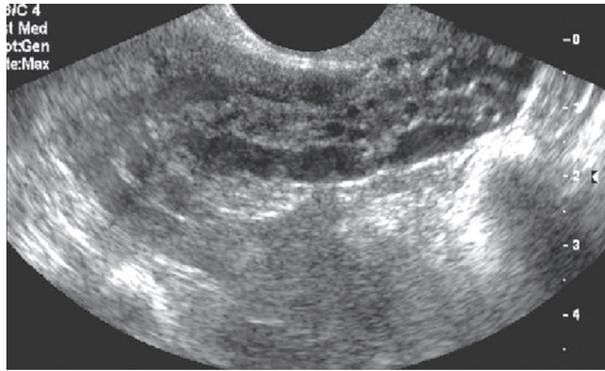
### Treatment

Therapy for adenomyosis usually begins with conservative medical treatment, including administration of hormones and analgesics. Surgical treatments include endometrial ablation, laparos-

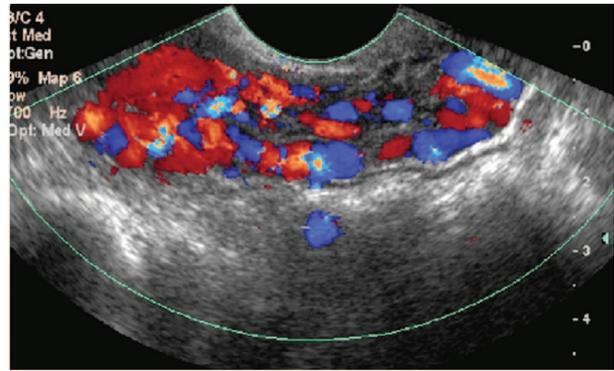


**e.**

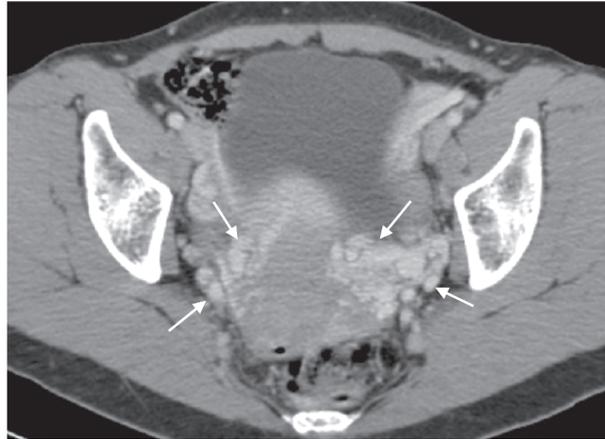
copy, or lesion excision. Uterine artery embolization is a recent, emerging therapy for adenomyosis as well. The only definitive treatment for adenomyosis, however, is total hysterectomy (27).



a.



b.



c.

**Figure 18.** (a, b) Gray-scale (a) and color Doppler (b) images demonstrate congested pelvic veins. (c) Computed tomographic (CT) scan demonstrates enhanced, bilateral tortuous vessels (arrows), findings that correlate with those seen sonographically.

### Pelvic Congestion Syndrome

Pelvic congestion syndrome is a common cause of chronic pelvic pain. First described by Richet in 1857, the symptoms of chronic dull pelvic pain, pressure, and heaviness are often a result of dilated, tortuous, and congested veins produced by retrograde flow through incompetent valves in ovarian veins (39–41) (Fig 18).

The prevalence of pelvic congestion syndrome is closely related to the frequency of ovarian varices, which occur in 10% of the general population of women (39). Within this group of patients, up to 60% may develop pelvic congestion syndrome (40). In general, pelvic congestion syndrome is considered an underdiagnosed cause of chronic pelvic pain because of the nonspecificity of the

observations made with conventional imaging. However, with recent advances in imaging technology, a substantial number of women can expect to benefit from an accurate diagnosis (41).

### Pathophysiology

The pathogenesis of pelvic congestion syndrome is most likely multifactorial. Pelvic congestion syndrome may result from obstructing anatomic anomalies such as a retroaortic left renal vein, left ovarian vein congestion secondary to compression of the left renal vein by the superior mesenteric artery (nutcracker phenomena), or right common iliac vein compression. Secondary congestion may be seen with a number of different disorders, including valvular incompetence, portal hypertension, or acquired inferior vena cava syndrome (41–44). Risk factors for pelvic congestion syndrome may include hereditary factors, hormonal influence, pelvic surgery, retroverted uterus, a history of varicose veins, and multiple pregnancies. Associated findings of cystic ovaries are found in over 50% of cases (45) (Fig 19).