Ultrasound Obstet Gynecol 2001; **17**: 177–178

Picture of the month

Adenomyosis: power Doppler findings

N. PERROT, I. FREY, J.-L. MERGUI, M. BAZOT, M. UZAN and S. UZAN

*Obstetric and Gynecology Departments, Hôpital Tenon and Jean Verdier; *Radiology Department, Hôpital Tenon, Paris, France*

Adenomyosis is a condition characterized by the presence of ectopic endometrial glands and stroma in the myometrium. Diffuse and focal forms exist. The symptoms mimic those of leiomyomas.

Transvaginal ultrasound imaging is an effective modality in the diagnosis of diffuse adenomyosis[1–3]. The following features can be demonstrated:

- Diffuse widening of the myometrial wall (Figure 1) resulting in an asymmetry between anterior and posterior walls of the uterus. The adenomyosis usually affects the posterior wall although it can occasionally involve the anterior wall especially if the uterus is retroverted.
- Increasing echotexture of the myometrium. Areas of heterogeneity with indistinct boundaries are also present within the myometrium.
- Small myometrial cysts (like small endometriomas) with thin hyperechoic margins, lying below the endometrial surface. These should be distinguished by color or power Doppler from dilated veins which are usually in the outer myometrium.

Focal adenomyosis is characterized by a heterogeneous echopattern of the myometrium. This is due to the presence of poorly delineated hyperechoic masses within the myometrium. This appearance may mimic cases of myoma in which their margins are difficult to define. Power Doppler ultrasound facilitates the differentiation between leiomyomas and adenomyosis as the vasculature of the former typically circumscribes the mass. Thus with color and/or power Doppler imaging these vessels produce a well-defined rim around the leiomyoma with few vessels entering the body of the mass. In patients with diffuse or focal adenomyosis the associated vascular architecture appears unremarkable (Figure 2), with the vessels following their normal course perpendicular to the endometrial interface. In the Picture of the Month, these vessels are slightly more dilated than the radial artery of a normal uterus. Power Doppler is, therefore, useful in distinguishing a proliferative, well-circumscribed mass, typified by a leiomyoma, from a proliferative and infiltrative condition such as adenomyosis.

Making the correct diagnosis in cases of suspected adenomyosis is essential because hysterectomy is the definitive treatment for debilitating adenomyosis.

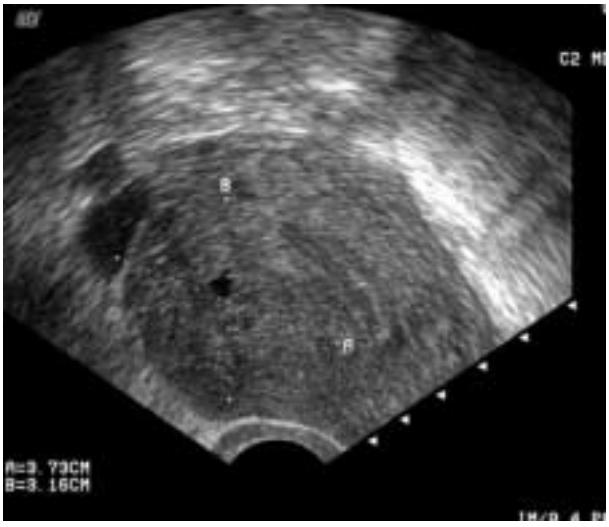

Figure 1 Diffuse widening of the posterior myometrial wall with morphologic appearance typical of adenoymosis.

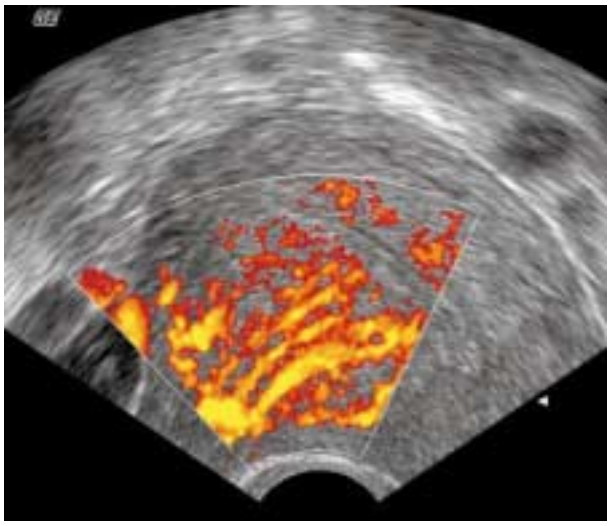

Figure 2 Normal vascular architecture on power Doppler which is diagnostic for adenomyosis and which rules out the diagnosis of myoma.

Correspondence: Dr N. Perrot, Centre de Radiologie et D'Echographie G Vitenson, 13 Avenue de L'Opera, 75001 Paris, France (email: vitenson@noos.fr)

References

1 Fedele L, Bianchi S, Dorta M, Arcaini L, Zanotti F, Carinelli S. Transvaginal ultrasonography in the diagnosis of diffuse adenomyosis. *Fertil Steril* 1992; 58: 94–7
2 Atri M, Reinhold C, Mehio AR, Cahpman WB, Bret PM. Adenomyosis: US features with histologic correlation in an in-vitro study. *Radiology* 2000; 215: 783–90
3 Reinhold C, Tafazoli F, Mehio A, Wang L, Atri M, Siegelman ES, Rohoman L. Uterine adenomyosis: endovaginal US and MR imaging features with histopathologic correlation. *Radiographics* 1999; 19: S147–60 (Review)