

Volume 7 - Issue 4, 2007 - Features

Uterine Fibroid Embolisation: Ensuring Post-Procedural Best Practice

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Interventional radiologists play as important a role in post-procedural processes as they do during pre-procedure evaluation and the intervention itself. Patients consider the IR as their treating physician and expect to receive post-procedure care and assurance during their convalescence as much as they do from our clinical colleagues. Moreover, the course of recovery and typical sequelae as well as complications are not well understood beyond the IR community. It is in the interest of the IR and the patient to ensure that side effects and complications are adequately treated and inappropriate actions (e.g. hysterectomy) are avoided.

An early phone interview allows the inevitable gradual decrease in pain and physical weakness patients experience after UAE to be verified. Patients are reassured, minor problems such as minimally increased temperature, onset of minor vaginal bleeding, etc. discussed, and adequate pain medication checked. Some centres with an outpatient IR clinic may also see the patient at four weeks for a regular clinical visit. This may also be performed by the patient's own gynaecologists providing that he/she is familiar with the typical clinical course after UAE.

Clinical and Imaging Outcome

Uterine or individual leiomyoma size reduction is not a good indicator for clinical success in UAE. Symptom improvement remains the single important measure for clinical success. Improvement in clinical symptoms is generally seen three months after the procedure. At this time, only neglectible size reduction of fibroids may be observed. Interventional radiologists should be aware of this discrepancy since patients might be irritated by imaging reports and may need reassurance regarding the course of symptomatic improvement and size reduction of fibroids treated. While menorrhagia may improve as early as within the first cycle after UAE, bulk-related symptoms may take longer to improve. Transient amenorrhea for up to three cycles is common. However permanent amenorrhea is seen in a minority of patients, associated with patients age and rarely seen in patients under the age of 45 years.

Follow-up imaging can be done by transvaginal ultrasound in those women who improve. If patients do not report improvement of symptoms four months after UAE, the treating interventional radiologist should investigate the causes of failure. A detailed history of signs and symptoms in the preceding months should be collected. Thereby, true persistence of symptoms can be differentiated from symptoms that may be related to ongoing fibroid sloughing, intracavitary remnants of fibroid material or infectious complications. Evaluation for infection and hysteroscopy to assess the uterine cavity should be performed.

Persistent Symptoms

In case of persistent symptoms, no decrease or even increase of uterine fibroids contrast-enhanced imaging should be performed to rule out incomplete fibroid infarction after UFE and the possibility of a leiomyosarcoma. MR imaging is particularly helpful in those cases that do not improve beyond four months follow-up after UFE. Typical imaging features are observed after fibroid embolisation.

The leiomyoma show a homogeneous low-signal intensity on T2-weighted images after UFE, variably high signal intensity on T1-weighted images due to haemorrhagic infarction as well as a lack of enhancement after administration of gadolinium-based contrast agents. MR imaging also depicts morphologic changes such as sloughing of fibroids in contact with the uterine cavity. The latter may be associated with vaginal discharge in patients having undergone UFE but do not require additional treatment.

In case of ongoing fibroid expulsion a dilated cervical os and leiomyoma tissue pointing towards the cervix may be observed. Endometritis is seen in 0.5% of cases after UAE and usually responds well to antibiotics but may result in septicaemia if left untreated. With MR imaging, tissue within the uterine cavity may be observed together with high-signal-intensity fluid on T2-weighted images indicating retained fluid. Punctuate foci of low signal intensity represent signal voids due to the presence of air on T1- and T2-weighted images. Contrast-enhanced MR images increase the conspicuity of intracavitary fluid collections and also depict hyperperfusion of inflamed adjacent endometrium. Contrast-enhanced MRI can determine persistent perfusion of fibroids after UAE which maybe the cause of clinical failure. It has been demonstrated that persistent perfusion may lead to regrowth of leiomyoma tissue and recurrence of symptoms.

Published on : Mon, 1 Oct 2007