

Letter from the Guest Editor



It is my great pleasure to introduce this issue of *Seminars in Ultrasound, CT, and MRI* dedicated to Interventional Radiology in Gynecologic and Obstetric diseases. Interventional radiology is a rapidly evolving subspecialty of radiology in which both vascular and nonvascular diseases are treated by minimally invasive approaches by the manipulation of small catheters and catheter-based instruments. Interventional radiology is continuing to reshape current practice in many specialties of clinical care and the fields of gynecology and obstetrics are no exception: through improvement of new procedures and enhancement of standard techniques, the interventional radiologist can now offer many important services to the obstetrician-gynecologist. In this *Seminar's* issue, in the opening article, Antonio Basile et al underline the role of transcatheter embolotherapy as a safe and effective procedure for the treatment of pelvic congestion syndrome that is often an underdiagnosed cause of chronic pelvic pain in female patients with radiological detection of gonadal vein dilatation and parauterine varices. In the second article, Andrea Contegiacomo et al highlight the importance of uterine fibroids (also known as leiomyomas and myomas) embolization as a safe and effective organ sparing treatment for women with fibroid-related symptoms, on the basis of a broad range of published evidence including randomized-controlled trials. In the third article, Anna Maria Ierardi et al review the role of ablative procedures in the management of symptomatic fibroids describing safety profile and outcomes of these modalities. Patients affected by uterine myomas may benefit from such uterus-preserving therapies, among which the choice depends on number, size, and location of the lesions to be treated, patient's age and preferences, and pregnancy wish, as well as availability of therapy. Image-guided ablative techniques may offer many advantages over surgery with significant reduction in both perioperative complications and length of hospitalization. In the next article, Alessandro Napoli et al describe the role of focused ultrasound surgery in the treatment of uterine fibroids: focused ultrasound surgery is a relatively new technique that relies on mechanical and thermal energy of ultrasounds for the ablation of a target tissue under an imaging guidance. Focused ultrasound surgery is a noninvasive image-guided therapy and an alternative to surgical interventions: it

presents an opportunity to revolutionize cancer therapy and to affect or change drug delivery of therapeutic agents in new focally targeted ways. Francesco Giurazza et al review the current treatment approaches of uterine arteriovenous malformations: conservative-medical treatment, endovascular embolization and surgery. Today endovascular embolization represents the gold standard of treatment, obtaining elevated success rate up to 90%, and preserving childbearing capacity with minor procedural complications. Domenico Patanè et al provide an overview related to interventional radiology procedures used in patients affected by gynecological malignancies in advanced stages not suitable for surgery: the use of both extravascular and endovascular interventional radiology techniques has greatly reduced morbidity and mortality from gynecological cancer. Cristina Mosconi et al review the new treatments, varying from medical management, minimally invasive surgical approach and local treatment including systemic or local infusion of metotrexate and uterine artery embolization, developed for the management of cesarean scar pregnancy and ectopic pregnancy. Uterine artery embolization is widely used to control hemorrhage and preserve the uterus, and is considered an affective adjuvant treatment of cesarean scar pregnancy and ectopic pregnancy, especially associated with other therapies. In the next article, Fabio Corvino et al provide an overview of the different treatments of postpartum hemorrhage, focusing on the role of interventional radiology. Pelvic artery embolization should be considered as first-choice therapy after failure of medical treatment because it offers several advantages compared to surgical techniques, it does not require general anesthesia and it allows easy identification of the location of bleeding by arteriography. Francesco Giurazza et al review the main imaging diagnostic findings of placental implant anomalies and summarize the main preventive endovascular strategies reported in literature. The correlation between abnormal invasive placentation and postpartum hemorrhage suggests that a widespread antenatal diagnosis of placental anomalies would improve the management of these challenging patients. The role of endovascular procedures in this field has been encouraged by multiple studies reporting prophylactic uterine arteries embolization and iliac/aortic balloon catheters positioning. In the closing article, my colleagues

and I discuss the different components of interventional radiology periprocedural care in gynecology and obstetric practice with specific emphasis on patient safety. The need for more standardization to improve patient safety and quality of care is increasingly being recognized in interventional radiology. Preprocedural planning and intraprocedural organization are important for time management and for patient safety. Of all the targeted and effective actions that can be undertaken to reduce adverse events, the use of safety checklists might have a prominent role. I wish to thank all the authors of this issue for

their hard work. I would like to thank Howard Raymond, Editor, for giving me the opportunity to serve as guest editor of this issue. I would also express my gratitude to Dana Roth, Editorial Assistant, and staff at Elsevier for their continued support.

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