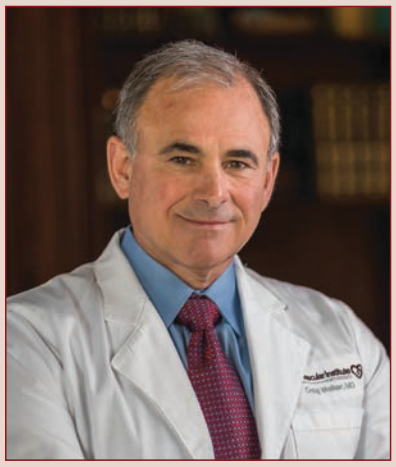
Uterine Fibroid Embolization: A Bellweather for the Rapidly Expanding Field of "Embolic Therapy"



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Hello and welcome to the April 2021 edition of *Vascular Disease Management*. This month I have chosen to comment on Dr. Daniel Rubin and colleagues' article "Uterine Fibroid Embolization: A Review for Endovascular Trainees".

I have chosen this article as it highlights an important component of evolving less invasive treatment utilizing embolization therapy to treat medical problems. Most vascular physicians are familiar with coil emboli and the ability to utilize these to thrombose aneurysms and active sites of significant bleeding, but most of us are less acquainted with even the more commonly employed "embolics" utilized to treat benign prostatic hyperplasia, Y-90 delivered locally to treat liver metastases, geniculate artery embolization to treat arthritis, left gastric artery embolization for obesity treatment, hemorrhoidal artery embolization to treat hemorrhoidal bleeding and the non-spherical polyvinyl alcohol and tris-acryl gelatin microspheres utilized in this report in the treatment of benign uterine leiomyomas (uterine fibroids) as an alternative to surgical uterine myomectomy or hysterectomy. Most of us have little to no direct knowledge about the products and technical procedural details involved in the rapidly expanding field of "embolic therapy" being utilized by interventionists to more effectively and less invasively treat medical disorders.

In this article Rubin and his co-authors describe in detail the technique of uterine artery embolization as well as the indications, contraindications, the medical and surgical options, and the potential recognized complications. Management of these potential complications is briefly discussed. This paper appropriately points out the need for a team approach encompassing all specialties in the decision-making process prior to the treatment of uterine fibroids, to ensure that the patient receives the most appropriate and effective therapy on an individual basis. This is a key point to ensure optimal patient outcomes in all interventions that can't be overstated.

The authors point out the limitations, both of the procedure and of the available data, to draw true comparisons between surgery and intervention in terms of likelihood of successful subsequent conception and delivery of a normal fetus, symptomatic relief, and overall complications and cost. It is important to point out that embolization therapy of uterine fibroids is a much newer therapy than myomectomy and that both of these procedures are undergoing refinements to increase effectiveness and lower risk, making even a direct randomized comparison at this time somewhat suboptimal and possibly far less meaningful long-term. As with any new therapy, operator technique has the potential to drastically influence outcomes. This is true for surgical or interventional technique. The clear advantages of uterine artery embolization over surgical options of myomectomy or hysterectomy that seem apparent and are consistent across studies are a shorter hospital stay, (which has become far more relevant with the COVID-19 pandemic), less pain, and no need for an incision.

This article with its detailed description of technique highlights the need for rigorous training before performing this or any interventional procedure.

Therapies utilizing "embolics" are expanding to multiple vascular beds as a means to choke off blood supply (to starve tumors or stop bleeding) or to deliver a therapeutic medication to a precise area where it can treat in a more targeted and precise manner with less systemic effects. This field is rapidly evolving. In benign prostatic hypertrophy embolic therapy is not only less invasive than surgery but appears to be associated with less risk of nerve injury and less risk of complications such as impotence and retrograde ejaculation.

Although embolic therapy is firmly established as an effective treatment, and may be preferable in many disease states, it is not universally available, and is not always discussed as an option with patients. Instead, treatments that have been "standard of care" historically may be the only discussed options with no mention of newer modalities. We clearly must assemble multi-disciplinary teams of health care providers who are knowledgeable to address disease states and can communicate all patient options with a realistic assessment of appropriate advantages and disadvantages. As health care providers we must educate ourselves about these procedures even if we don't actually perform or plan to perform the interventions.