PAE and Successful Partnership With Urology

Building a successful PAE program requires collaboration between urology and interventional radiology through proper patient selection, communication, and referrals.

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Prostate artery embolization (PAE) is an exciting treatment that is now being offered to patients with symptomatic benign prostatic hypertrophy (BPH) around the world. The success of PAE as a nonsurgical treatment of BPH has been demonstrated.[1-4] However, building a successful high-volume PAE program can be challenging without the support of our urology colleagues. Although some interventional radiologists have set out to build this practice on their own, the challenges can be significant. This article discusses how we have built a high-volume PAE program with a successful partnership between urology and interventional radiology (IR).

ESTABLISHING AND FOSTERING THE RELATIONSHIP

Most interventional radiologists have a working relationship with their local urology department. Often, there are multiple areas of existing collaboration, including nephrostomy management, access for lithotripsy, ureteral stent placement, renal biopsies, and cryoablation treatments. In many centers, IR also supports urology by performing embolization procedures for bleeding complications related to urologic procedures or preoperative embolization for large renal cell carcinomas.

Building on an existing relationship with urology to develop a PAE program is beneficial to both specialties and can help mitigate any perceived threat. BPH is the domain of the urologist. As such, many urologists view PAE as a threat and a potential turf invasion. IR has the opportunity to introduce PAE as a procedure that can assist urology with patients who are at high risk for surgery or otherwise problematic with few surgical options. Recent American Urological Association guidelines reinforce a defensive position, recommending that PAE be performed only in the context of a clinical trial.[5] Utilizing an existing collaborative relationship, IR has the opportunity to reassure urology that PAE will not be the treatment of choice for every single patient with BPH. Many patients will still be well served by urologic treatment.

Most urologists have long-term relationships with their BPH patients, and prostate intervention may only become necessary after many years of medical management. In many cases, PAE can be a problem-solving tool rather than something that will "steal" their patients. For example, PAE can be used as an adjunct to bladder stone removal procedures by first shrinking and softening the prostate, making cystoscopic access to the bladder easier and safer. The beauty of PAE is that it does not limit any other future surgical interventions; in fact, it will likely make them easier, especially in the context of bleeding.

Offering to give a talk or grand rounds can grow the collaboration. Setting up a joint clinic with urology where IR can quickly see patients who are interested in PAE or are not ideal for surgery can formalize the relationship, although this may not be feasible in many practice settings. To be seen as a true partner in the relationship, it is incumbent on IR to learn the pathology of the prostate and speak the language in terms of International Prostate Symptom Score, quality-of-life scores, urodynamic testing, and uroflow studies. Bladder outlet obstruction is a complicated process that must be understood.

As with any procedure, patient selection is key. The optimal patients to select when starting a PAE practice are those who are problematic for the urologist. Every urologist can recall patients they wish they had not operated on, and many of these patients are languishing on medical management because they are deemed poor surgical candidates. Patients with hematuria, whether from BPH or even prostate cancer, are a good place to start.

There are many patients with prostates that are too large (> 80–100 g) for UroLift (NeoTract, Inc.) or transurethral resection of the prostate (TURP). Other potential candidates for PAE are those at high risk for surgery due to other comorbidities or a need for ongoing anticoagulation or antiplatelet medications. Some patients who have failed UroLift or TURP can achieve success with PAE. Other patients refuse surgery altogether because of their own preferences and risk tolerance. Many do not want to risk potential erectile dysfunction or retrograde ejaculation from surgical

intervention. Finally, there are a large number of office-based urologists who do not perform surgical interventions, making them natural partners for IR.

Taking the time to build the referring physician's confidence is essential. An IR complication, if poorly handled, may result in the patient taking frustration out on the referring physician or urologist. When starting a PAE program, it is critical that the interventional radiologist is readily available to the patient and active in managing postembolization syndrome (which can be significant with a prostate > 100 g) or other issues that may arise. Before performing the first PAE, it is important to have a well-thought-out plan, including prescriptions for proper periprocedural management and established clinical follow-up. Seeing patients in the clinic within the first few weeks to 1 month after PAE ensures that any procedure-related issues are addressed and reassures the urologist that IR is available for clinical management. Being unreachable in the setting of postembolization syndrome or urinary retention could be the end of referrals.

WORKUP OF PAE CANDIDATES

Many patients seek out PAE on their own. They may have read about it on the internet or know someone who has undergone the procedure. In some cases, these patients may have never seen a urologist. Referring these patients to urology is an excellent way to further build the collaborative relationship. Referral to the local urologist prior to PAE provides expert discussion of all additional treatment options and allows the opportunity for urologic testing, including uroflows, prostate-specific antigen level, postvoid residual, and full urodynamic testing when indicated. Symptoms of bladder outlet obstruction are not always caused by an enlarged prostate—the patient may have underlying urethral stricture disease, a hypocontractile bladder, or prostate or bladder cancer. Not involving the urologist in the workup may lead to misdiagnosis and potential legal action.

MANAGEMENT OF COMPLICATIONS

Although PAE is a low-risk procedure, complications can occur. Most interventional radiologists who are capable of performing the technically challenging PAE procedure will be more than capable of managing access site hematomas or pseudoaneurysms. However, there are unique potential complications related to the procedure that may require a urologist's assistance. In the event of possible nontarget embolization to the bladder, cystoscopy may be needed for evaluation. In patients with chronic urinary tract infections, discussion with urology regarding the best antibiotic regimen after PAE is warranted. In the event of severe bladder spasms or dysuria during the postembolization period, expertise on medical management is needed.

Patients with a history of urinary retention are at a significant risk of retention after PAE, especially if the prostate is > 100 g. Planning ahead for the possibility of sending the patient home with a catheter for the first 5 to 7 days after the procedure might be warranted. Trained nurses and/or cooperation with urology is essential if the patient needs to come in for a voiding trial or be taught how to self-catheterize. For patients with chronic indwelling catheters, it is helpful to have a urology clinic available to help with voiding trials after successful PAE.

RESEARCH

PAE for BPH is still lacking in terms of the large randomized controlled trials that are needed to convince the larger urology community of the procedure's safety and efficacy. Cooperation with urology will be key to producing this high-level evidence. Additionally, the role of PAE and prostate cancer has yet to be determined, and conducting research in this area without the support of urology colleagues will be difficult.

CONCLUSION

PAE is an exciting nonsurgical procedure that is favorably changing the lives of men with symptomatic BPH. In our experience, building a successful PAE program has been accomplished as a joint venture in collaboration with urology, as a natural extension of the existing relationship. Collaboration maximizes the expertise of IR and urology to ensure the safety and success of our mutual patients. ■

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