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Collaboration Advances Northside Radiology Associates' Treatment of Gynecological Conditions With Interventional Radiology

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THROUGH ITS BROAD EXPERTISE AND COLLABORATIVE RELATIONSHIPS WITH NORTHSIDE HOSPITAL AND THE NUMEROUS GYNECOLOGISTS IN THE ATLANTA AREA, NORTHSIDE RADIOLOGY ASSOCIATES HAS BECOME A LEADER IN DETECTING AND TREATING PELVIC VENOUS CONGESTION SYNDROME (PVCS), A CONDITION THAT POSES UNIQUE DIAGNOSTIC CHALLENGES.

JASON LEVY, M.D., Director of Interventional Radiology at Northside Hospital, says patients with PVCS present with chronic pain in the pelvis, upper thigh or lower back — symptoms that complicate diagnosis because they can occur with many conditions. He notes that for up to 30% of patients whose pelvic pain has no clear etiology, the pain could be related to PVCS.

“PVCS is unfortunately one of the most underdiagnosed problems in women’s health today,” says Dr. Levy. “Part of that is education, and part of it is the difficulty in diagnosing it.”

Abnormal reflux from either or both ovarian veins into pelvic varicosities causes PVCS. Pain stems from the pelvic venous hypertension and engorged pelvic veins that result from the reflux.

A common symptom of PVCS is pain that ensues after a woman stands for long periods of time, followed by relief that occurs after she lies recumbent.

“The reason the pain seems to be gravity-dependent is that, just like varicose veins anywhere in the body, PVCS is caused by venous hypertension,” Dr. Levy says. “In these cases, it is abnormal reflux of venous flow back to the gonads rather than back to the heart.”

The Challenge of Diagnosis

The interventional radiologists at Northside Radiology Associates are experienced in the diagnosis and treatment of PVCS because they handle an exceptionally high volume of cases. They also are dedicated to educating the gynecological community about signs of the condition in order to mutually assure that patients receive the highest standard of care.

For instance, Dr. Levy notes that while

From left: Jason Levy, M.D.; Jin Park, M.D.; Praveen Reddy, M.D.; and George Kallianos, M.D.



there can be overlap between the symptoms of PVCS and symptoms caused by conditions for which hysterectomy may be indicated, hysterectomy is ineffective in treating approximately one-third of patients who have PVCS.

“The reason a hysterectomy doesn’t always cure it is that the ovaries are often left behind, leaving room for reflux,” Dr. Levy says. “Unless you take out the uterus and both ovaries, you’re not going to have an effective cure, as the underlying problem remains. Even when both ovaries are removed, some women still have symptoms. It is important to realize many collateral systems are involved, and an intravascular approach allows you to visualize these while surgery will not.”

That highlights the value of the direct, open communication that is standard between Northside Radiology Associates and referring gynecologists: availing patients of the broadest scope of capabilities while expanding awareness of PVCS’ symptoms and of the advanced techniques available to treat it.

Clinical signs of PVCS include occasional varicosities in the vulva, a bluish discoloration of the cervix and ovarian point tenderness during a pelvic exam. However, these signs may be absent in more than half of patients.

“Other times, a physician will diagnose it while performing an exploratory laparotomy” Dr. Levy says. “Sure enough, many times the laparoscope will reveal dilated gonadal veins. If the patient has dilated veins and fits the clinical picture by having gravity-related pain, that aids diagnosis.”

Because the condition is associated with gravity, magnetic resonance imaging, computed tomography scan or other procedures that require the patient to lie down can be misleading, as they allow the varicosities to decompress.

“It’s important that the gynecologist and interventional radiologist collaborate on this because the combination of expertise really serves the patient best,” Dr. Levy says. “When a gynecologist comes to me and says, ‘I saw this on my

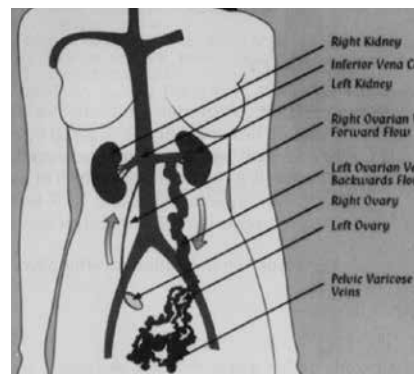


Diagram and fluoroscopic image showing reflux of gonadal veins

INTERVENTIONAL ONCOLOGY SOLUTIONS FOR GYNECOLOGIC METASTASIS

SOME GYNECOLOGICAL CANCERS, including ovarian and endometrial, as well as breast cancer, carry the potential to metastasize to the liver. Advanced interventional oncology procedures, including liver-directed therapies, provide Northside Radiology Associates’ interventional radiologists with an array of treatment options designed specifically for these challenging cases.

Among the techniques the practice employs is microwave ablation. This utilizes electromagnetic waves to destroy abnormal cells with heat and can be performed minimally invasively. It is particularly helpful in treating patients with small tumors who are not considered prime candidates for resection. Radiofrequency and cryoablation are also commonly used to treat these cancers.

In addition, the interventional radiologists at Northside Hospital have been pioneers in the field of ovarian cancer metastases ablation in both the liver and the peritoneum. They have among the most extensive experience nationwide with ablation of these tumors.

Liver metastases can be safely targeted with high levels of radiation using Yttrium-90 (Y-90) radioembolization therapy. This treatment is recommended for patients exhibiting high levels of liver functionality, says Jason Levy, M.D., Director of Interventional Radiology at Northside Hospital. It introduces radioactive Y-90 to tumor sites, effectively containing the treatment to the targeted location and minimizing exposure to surrounding organs and tissue.

Dr. Levy notes that therapies such as Y-90 radioembolization are often used concurrently with other treatments, such as chemotherapy, for optimal results.

laparoscope,’ we start discussing those clinical things that are present in PVCS.”

When Diagnosis Combines With Treatment

Dr. Levy says the most conclusive method of diagnosis is part of a minimally invasive procedure used to treat PVCS — a venogram. During the procedure, contrast dye is injected into the gonadal vein through a catheter fed into the jugular or femoral vein via a 2-millimeter incision. The veins become visible on an X-ray, and the interventional radiologist looks for a reflux, which, if found, confirms the diagnosis.

With a positive diagnosis, the catheter is already in place to carry out pelvic vein embolization. During this outpatient procedure, which lasts only about one hour, the interventional radiologist routes the catheter to the affected vein using X-ray guidance. The physician inserts metal coils and uses a sclerosing agent to eliminate the faulty vein and its tributaries.

Dr. Levy says the procedure has an



From left: Jackie Knight, N.P.-C.; Angela Lewis, R.N.; Casey Grimsley, R.N.; Mackenzie King, R.N.; and Kacey Phillips, R.N.

“We run a very clinically oriented service built on teamwork. Patients are seen in our private office within the hospital. They have direct access to both nurses and doctors, and we provide follow-up care after their procedures. We have a team of five nurses and nurse practitioners. We truly care about our patients as well as the patient care experience. When gynecologists entrust us with their patients, we strive to extend the same level of care they have shown them, and we want patients to know we value them.”

— Mackenzie King, R.N., Clinical Nursing Coordinator, Northside Radiology Associates

extremely low complication rate and is clinically successful in 84% of patients, providing significant pain relief.

“It changes a lot of women’s lives,” he says. “Several patients have come back with happy tears in their eyes on a six-week follow-up, talking about how much better their quality of life has become.”

Dr. Levy also notes that every study that

has evaluated ovarian vein embolization and its effects on fertility has shown no changes in luteinizing hormone levels, follicle-stimulating hormone levels or menstrual pattern.

And more broadly, interventional radiology has gained stature in the medical community as a highly effective diagnostic and treatment tool for PVCS. Authors of

a study, “Pelvic Congestion Syndrome: Diagnosis and Treatment,” published in 2008 in *Seminars in Interventional Radiology*, point out: “[T]he formidable obstacles of diagnosis and management of [PVCS] patients can certainly be overcome with the methods that exist today. Interventional Radiology in particular is quite promising for offering definitive diagnosis and symptomatic relief” to patients.

Treating Other Gynecological Conditions

In addition to PVCS, Northside Radiology Associates uses minimally invasive techniques to address a range of other gynecological conditions.

One such technique is uterine fibroid embolization (UFE), which is utilized to treat symptomatic fibroids. During the procedure, a catheter is inserted into the femoral artery, and, with X-ray guidance, the interventional radiologist directs the catheter to the appropriate area in the uterine artery. The radiologist injects particles that flow to the fibroid and wedge in the vessels leading to it. This slowly blocks the blood supply to the tumors.

Fibroids usually decrease in size by 40–70% within six months. Up to 90% of patients experience clinical success following UFE.

“With our UFE experience and the open communication we have with gynecologists, fibroid patients are going to get the best care possible because all their

options are presented,” Dr. Levy says. “They can help make their own decisions about what’s best for them.”

Another specialty of Northside Radiology Associates’ interventional radiologists is fallopian tube recanalization for infertile women, which is used to treat occlusions in the proximal portion of the fallopian tube.

During the procedure, a catheter is introduced into the cervix and guided to the fallopian tube. A guidewire is used to open the tube. Dye is then injected to show spillage into the peritoneal cavity is occurring. Patency returns in 85–90% of cases, and one out of three patients is able to get pregnant.

The Benefits of Collaboration

Dr. Levy says Northside Radiology Associates is distinguished by its physicians’ expertise and experience and by the streamlined approach embraced by the large team of interventional radiologists, diagnostic radiologists, nurses and nurse practitioners. Led by Mackenzie King, R.N., the nursing team provides support from initial presentation to follow-up.

The practice is also distinguished by the mutually respectful relationship it has built with gynecologists in the community.

“Our availability to assist gynecologists in difficult cases fosters trust,” Dr. Levy says. “When gynecologists send patients here, they know the patients are going to be well take care of.”

Dianne Keen, Director of Business Development at Northside Radiology Associates, says a sense of teamwork and the respect the practice and referring physicians have for one another helps build solid relationships.

“The collaboration and shared expertise between our team of radiologists and nurses and the referring gynecologists really does serve patients best,” she says. “They work together with patients’ best interests in mind, and the patients benefit.”

For more information about Northside Radiology Associates, visit www.northsideradiology.com or contact Dianne Keen, Director of Business Development, at (678) 553-7787 or dkeen@northsideradiology.com. ■