

Pelvic Congestion Syndrome

By Darren Lum, MD, Radiology Fellow, MRI, University of Wisconsin-Madison and Patrick Quarterman, Clinical MR Specialist, GE Healthcare

Patient history

A 26-year-old G0P0 patient presented for MRI/MRA with 12 years of left lower quadrant pain. Pelvic ultrasound revealed uterine varicosities. An MR Angiography (MRA) using TRICKS™ was requested for further evaluation.

Protocol

TRICKS (3T HDx)	
Pulse sequence:	TRICKS
TR	Auto (approx. 3.4 ms)
TE	Auto (approx. 1.1 ms)
NEX	1
Flip	30 degrees
FOV	35 cms
Temperature Resolution	4 sec
ZIP	No
Freq	256
Phase	160
Slice Thickness	2.6
Coil	8-ch Torso
Temperature Output Phases	20

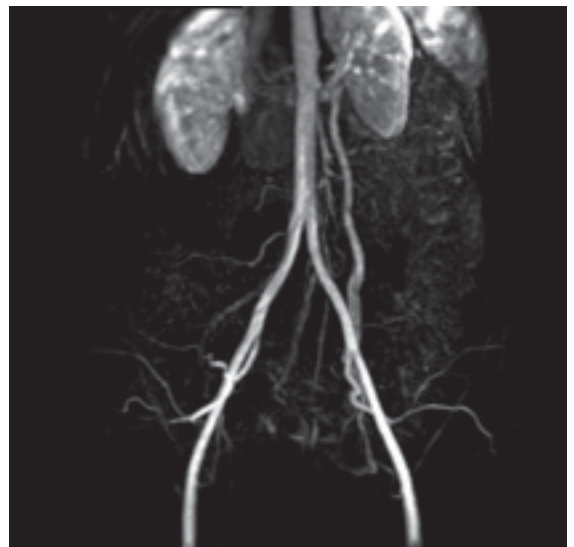
Clinical findings

With the TRICKS MRA exam, the radiologist was able to determine the following clinical diagnostic imaging findings:

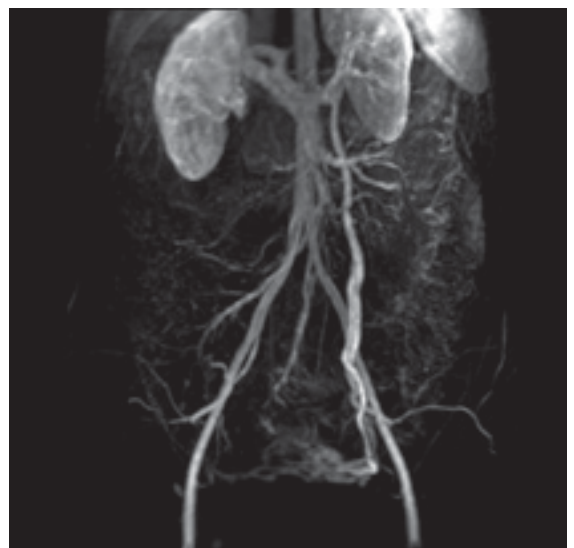
1. Retrograde flow down left gonadal vein to a plexus of varicosities around uterus.
2. Venous phases of TRICKS MRA shows drainage to right external iliac vein.

Discussion

Pelvic congestion syndrome (PCS) is a cause of chronic pelvic pain related to the presence of varicose (abnormally dilated) veins surrounding the uterus and ovaries. All veins contain tiny one-way valves that ensure that blood travels toward



TRICKS phase 7



TRICKS phase 9



TRICKS phase 12

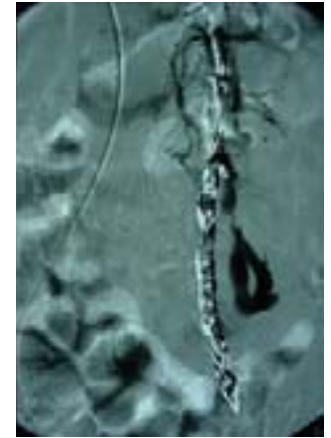
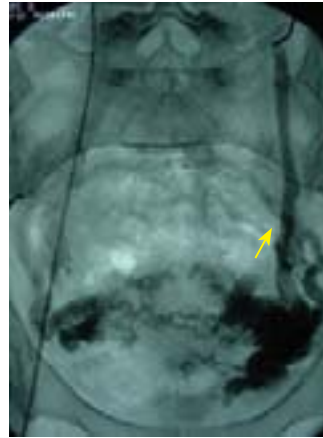
the heart to become oxygenated. When these valves fail, blood can pool and the veins can stretch or bulge. In pelvic congestion syndrome, varicose veins can affect a woman's uterus, ovaries and vulva and may cause dull, aching pelvic pain and occasionally, vaginal discharge or abnormal menstrual bleeding.

PCS can be missed during conventional diagnostic tests such as a gynecologic exam, ultrasound or laparoscopy. A vascular MR study specifically adapted for looking at the pelvic blood vessels offers a non-invasive method for diagnosing PCS.

Treatment

Depending on the severity of a woman's symptoms, treatments for pelvic congestion syndrome may include:

- Analgesics;
- Oral contraceptives;
- Embolization – seals the vein and helps relieve the pressure that is being abnormally transmitted through these veins to the pelvic organs; and
- Surgery – removal of the veins or hysterectomy with removal of ovaries.



X-ray contrast injected prior to embolization shows filling of leaking left ovarian vein (arrow) and numerous engorged veins on the pelvis. The vein was then easily closed with multiple small metal coils.

Summary

From this outline of PCS, it is hoped that clinicians and technologists may quickly identify and therefore hasten treatment of this painful medical condition. Recent advances in MR technology now enable rapid time resolved imaging (as low as one second per phase) that allows for dynamic MRA imaging to visualize arterial and venous blood flow, which is key in diagnosing PCS. ■

GE Healthcare

PLUG IN

www.gehealthcare.com/signapulse

Where to go when you want more MR

Read SignaPULSE and view exclusive online content at the newly redesigned www.gehealthcare.com/signapulse



imagination at work

