

NEW PACS BUSINESS CONTINUITY PLAN

Main Street Radiology is in the process of upgrading and re-organizing our PACS (Picture Archiving and Communication System). PACS enables all studies to be stored digitally and retrieved by any of our Radiologists at all of our sites instantaneously through fiberoptic lines, while providing referring physicians access through the internet.

Currently, we have one server located at our 32nd Avenue Bayside Office. All

studies performed at our three offices are stored at the single site. If the server goes down, all three offices are affected.

Our new PAC business continuity plan will build redundancy by creating three separate but interconnected PAC systems. The main storage archive system will remain at the 32nd avenue office with 14 TB (1TB = 1000GB) storage capability. The other two offices will continue to send images to

the main server; in addition, each office will store approximately 3 months of data obtained at that site. When the server or network connection is down, each office will be able to function independently.

The PACS upgrade is a part of our continued effort to provide the most sophisticated and reliable radiological services to our community.

HERMINE NUSSDORF JOINS MSR

Hermine Nussdorf has recently joined Katerina Zoumberakis and Keri Viviano as Customer Service representatives at MSR. Hermine brings 12 years of experience in Radiology, formerly as office manager and marketing consultant. Her responsibilities will include improving and maintaining our quality of service, to address any problems raised by patients and referring physicians, and to stay in close contact with referring physician's staff.

Keri, who is fluent in Chinese (Mandarin) has been with MSR since June 2004, and Katerina (currently on maternity leave) joined MSR in 2002.



Hermine Nussdorf and Keri Viviano

EVANGELINE AGAPI GIANNIKIOS

Katerina Zoumberakis, customer service representative at MSR, gave birth to her first child on December 20th. Evangeline weighed 9 lb and 2 oz. Both mom and daughter are doing great and Katerina is expected to return to work by end of February.



3D ultrasound images (above and left) of Evangeline were obtained at 28 weeks of gestation. 3D obstetrical ultrasound can be performed at MSR only upon special request by the referring physician.

CASE OF THE MONTH

SUBCLAVIAN STEAL

When clinical symptoms suggestive of subclavian steal syndrome are present, imaging studies most frequently utilized have been color Doppler and conventional angiogram. More recently, magnetic resonance angiography (MRA) has been employed successfully as the imaging modality of choice, producing non-invasive high resolution images of the aortic arch and great vessels.

On Doppler evaluation (Figure 1), reversal of flow within the vertebral artery may be documented, which can be augmented by reactive hyperemia (arm exercise or inflation of blood

pressure cuff above systolic blood pressure for 5 minutes).

On a Gadolinium-enhanced 3D MRA (figure 2), normal enhancement of the left carotid artery and left vertebral artery is seen. Focal stenosis near the origin of the left subclavian artery is also identified. This technique is the best non-invasive test currently available to determine patency and quantify the degree of stenosis.

On the 2D time of flight (2D TOF) neck MRA (figure 3), the left vertebral artery is not visualized. Although the 2D technique is inferior at

demonstrating anatomic detail, it has the unique ability to determine direction of flow. In performing a neck 2D TOF MRA, only vessels with flow towards the head are imaged. When the left vertebral artery patency is established on the 3D MRA images, retrograde flow can be assumed in this patient.

At Main Street Radiology, all carotid/neck MRA are performed utilizing both the 2D and Gadolinium-enhanced 3D techniques. Aside from the ability to diagnose subclavian steal, obtaining two separate sequences minimizes equivocal results.

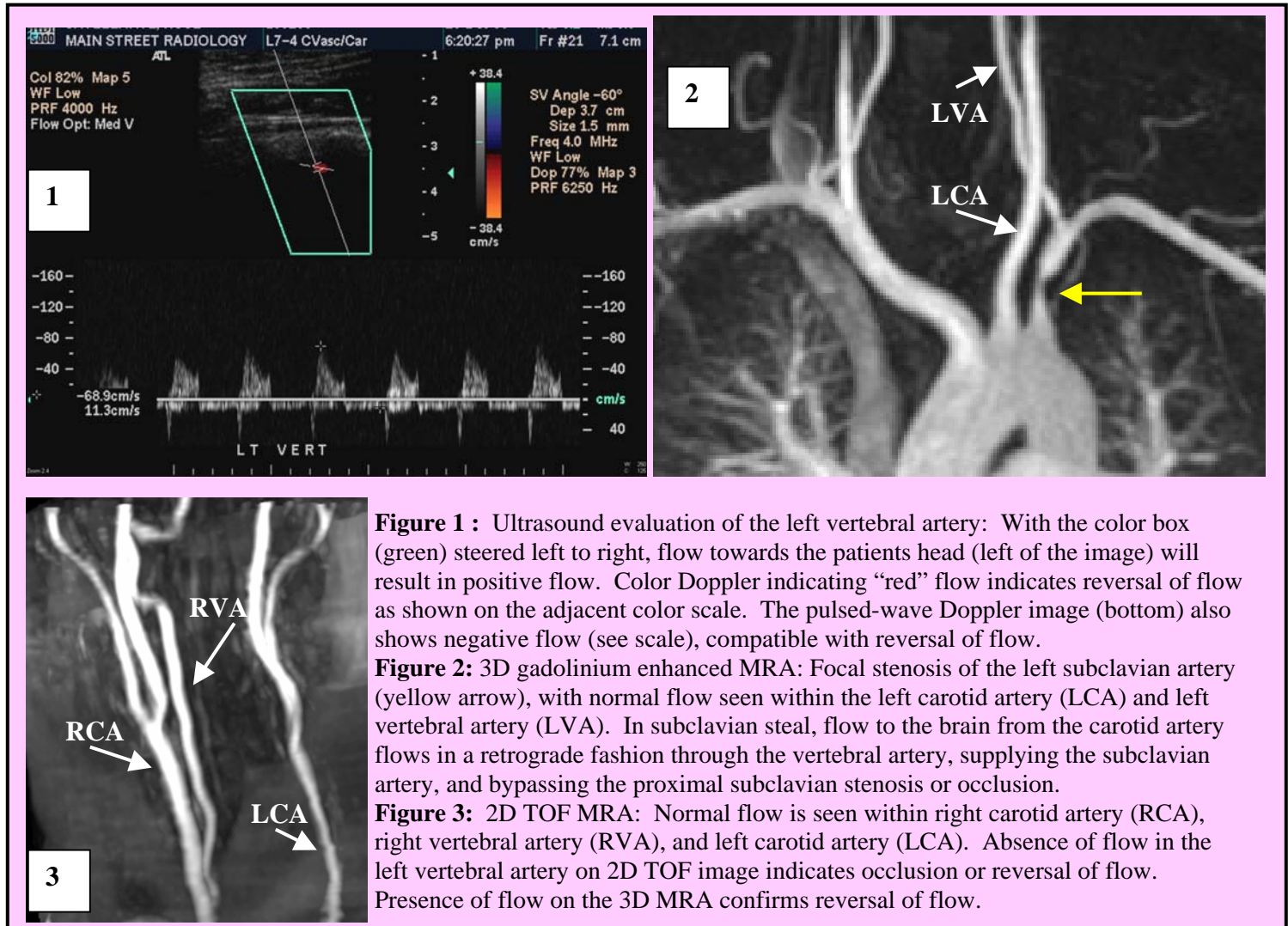


Figure 1 : Ultrasound evaluation of the left vertebral artery: With the color box (green) steered left to right, flow towards the patients head (left of the image) will result in positive flow. Color Doppler indicating “red” flow indicates reversal of flow as shown on the adjacent color scale. The pulsed-wave Doppler image (bottom) also shows negative flow (see scale), compatible with reversal of flow.

Figure 2: 3D gadolinium enhanced MRA: Focal stenosis of the left subclavian artery (yellow arrow), with normal flow seen within the left carotid artery (LCA) and left vertebral artery (LVA). In subclavian steal, flow to the brain from the carotid artery flows in a retrograde fashion through the vertebral artery, supplying the subclavian artery, and bypassing the proximal subclavian stenosis or occlusion.

Figure 3: 2D TOF MRA: Normal flow is seen within right carotid artery (RCA), right vertebral artery (RVA), and left carotid artery (LCA). Absence of flow in the left vertebral artery on 2D TOF image indicates occlusion or reversal of flow. Presence of flow on the 3D MRA confirms reversal of flow.