Using an MRI technique called magnetic field correlation (MFC), researchers can measure brain iron levels in adolescents, which could help diagnose attention-deficit/hyperactivity disorder (ADHD) and lead to more effective treatment. Study results were published online June 17th in Radiology.

Magnetic field correlation was introduced in 2006 by study co-authors Joseph Helpern, PhD, and Jens Jensen, PhD, from the Medical University of South Carolina (MUSC). MFC is designed to measure iron levels through a decrease in MRI signal.

As iron levels increase, there is a corresponding decrease in the MRI signal, which creates dark spots on MR images. In a study first presented at RSNA 2013, the researchers measured brain iron levels in 22 children and adolescents with ADHD and 27 healthy controls. Subjects ranged in age from 8 to 18 years old. Twelve of the ADHD subjects had never used medication for their condition.

All subjects were imaged on a 3-tesla scanner (Magnetom Trio, Siemens Healthcare) to create the MFC images. No contrast agents were used, and blood iron levels in the body were measured using a blood draw (Radiology, June 17, 2014).

The results showed that the 12 patients who had never used ADHD medication had significantly lower striatal and thalamic MFC indexes of brain iron than the ADHD patients who had been on psychostimulant medication and the control group. The findings suggest that iron absorption in the brain may be abnormal in patients with ADHD, given that atypical brain iron levels are found even when blood iron levels in the body are normal, said lead author Vitria Adisetiyo, PhD, postdoctoral research fellow at MUSC.

MFC could have a future role in determining which patients would benefit from psychostimulants if the current results can be replicated in larger studies. According to the American Psychiatric Association, ADHD affects 3% to 7% of school-age children.
Very few incidentally detected thyroid cancers would be missed if recommendations from the Society of Radiologists in Ultrasound (SRU) for thyroid nodules were followed. What’s more, the nodules not worked up are unlikely to become a problem, according to research published in the June issue of Radiology.

In a retrospective 10-year review, a team led by Dr. Manisha Bahl from Duke University Medical Center found that adopting SRU guidelines for follow-up of incidental thyroid nodules would result in only 2% of thyroid cancers being missed. In addition, the missed tumors tended to be much smaller and more likely to be stage I than those found during workup recommended by the SRU guidelines.

“When the SRU criteria-negative incidental cancers are compared to SRU criteria-positive incidental cancers, they are smaller in size, more likely to be papillary carcinoma, and less likely to have nodal metastases,” senior author Dr. Jenny Hoang told AuntMinnie.com. “In general, these characteristics belong to thyroid cancers that are more likely to have an indolent course and may never become symptomatic in the patient’s lifetime.”

A previous Duke study found that using SRU recommendations could prevent 30% of biopsies. However, that study population consisted mostly of benign nodules “and did not adequately address the fear of missing more cancers in a larger cohort of patients with incidental thyroid nodules over time,” she said. “In this paper we specifically addressed that fear: How many incidental cancers would be missed with the SRU recommendations over a decade?”

The group retrospectively reviewed data from thyroid surgery patients from January 1, 2003, through December 31, 2012. After evaluating imaging studies and reports for incidental thyroid nodules, the team categorized incidental nodules using the SRU criteria to ascertain the characteristics of malignant nodules that would and would not have been worked up. (Radiology, June 2014, Vol. 271:3, pp. 888-894).

Of the 2,090 thyroid surgery patients included in the study, 680 were found to have thyroid cancer; 101 (15%) had incidental thyroid nodules detected on imaging. After the researchers applied the SRU recommendations to the 90 patients who had available ultrasound images or reports, they determined that 16 (18% of the 90 patients and 2% of all thyroid cancers) would have been missed using the criteria.

For practicing radiologists and clinicians, the clinical implication from this study and the group’s prior studies is that SRU recommendations “can be used to better manage workup of incidental thyroid nodules and that SRU recommendations achieve the goal of ensuring that clinically important thyroid cancers would undergo biopsy, while avoiding unnecessary tests and surgery in patients with benign nodules,” Hoang said.

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Coding and Compliance Tips by Lori Shore, CPC,RCC

It’s that time of year when medical students begin residencies and graduating interns join practices. It should also be the time of year when the documentation lessons begin! Often times we see a rise in documentation related issues in July and August only to discover that the offending radiologists are new to a practice. Take the time to go over some documentation basics with those new to your practice and make the transition easier for all. To follow are a few common documentation issues to help you get started.

Enhanced studies must include documentation that IV contrast was administered. Oral or rectal contrast is not billable. It is preferable to know the drug and dosage, when possible. When an unenhanced study is followed by an enhanced study, mention of the contrast injection in the body of the report is crucial.

When billing for 3-D reconstructions guidelines now require that the services are done under “concurrent supervision”. Those buzzwords need to be in the documentation to indicate that the radiologist was involved in the selection of the views to be reformatted and that he/she reviewed them.

Reformatted images done based on protocol do not qualify for add-on codes 76376 or 76377. Coders also need to know whether or not the reformats were done on an independent workstation.

Duplex studies need to contain documentation that both spectral analysis and color flow were performed.

CT Angiography must include specific language that 3-D reconstructions were done. MIP is an acceptable alternative to 3-D; however, “multi-planar reconstructions” is NOT considered 3-D.

Last, but certainly not least, please make sure that new radiologists are well versed in all applicable PQRS measures. Radiologists need to successfully report to avoid the 2016 penalty.

As always, if you have any questions or would like an in-service on physician documentation, please do not hesitate to contact me at lshore@mbms.net.