PARIS — Earlier diagnosis of ankylosing spondylitis has emerged as a high priority—and MRI is vital in accomplishing it, according to Dr. Martin Rudwaleit.

The average interval between onset of symptoms of ankylosing spondylitis (AS)—chronically inflammatory low back pain—and the time of diagnosis is 6-10 years. This is unacceptable given the pain and progressive disability AS patients are subjected to during these long years of delay, he said.

Moreover, AS, a disease with an estimated prevalence of about 0.5%, has its onset predominantly in young adulthood. Symptoms occur by age 30 in 80% of cases and by age 45 in 95%. So the lengthy delays in diagnosis, which often involve extensive work absenteeism and deteriorating quality of life, take place during what would ordinarily be among the most productive years of life.

A major reason for the long delay in diagnosis is that the standard diagnostic criteria for AS used for nearly the past quarter century—the 1984 modified New York criteria—require unequivocal radiographic evidence of sacroiliitis. Because x-ray changes are a late manifestation of the disease, this makes AS diagnosis difficult before the disease is well along.

Dr. Rudwaleit and coworkers have proposed a new diagnostic algorithm for AS. It focuses on identifying disease in the preradiographic stages and relies upon MRI and HLA-B27 testing (Ann. Rheum. Dis. 2004;63:535-43). The criteria are now undergoing minor alterations in a multicenter validation study in which 650 patients with chronic low back pain have been enrolled to date.

“We think diagnosis of axial spondyloarthropathies without radiographic changes is feasible in daily clinical practice,” he said at the annual European Congress of Rheumatology.

As part of the effort to develop improved diagnostic criteria, he and his coworkers have devised a simpler method for differentiating inflammatory from mechanical low back pain. The distinction is critical because inflammatory low back pain is the earliest and most important symptomatic factor for cardiovascular disease. The diagnostic challenge arises from the fact that AS accounts for only 5% of chronic low back pain.

By analyzing the clinical histories of 101 patients with confirmed AS and 112 others with mechanical low back pain, Dr. Rudwaleit and coworkers identified four parameters that best discriminated between the two: morning stiffness of more than 30 minutes’ duration, improvement of back pain with exercise but not with rest, nighttime awakening due to back pain during only the second half of the night, and alternating buttock pain. When any two of these four criteria were met, the sensitivity and specificity for inflammatory back pain were 70% and 81%, respectively (Arthritis Rheum. 2006;54:569-78).

But the presence of inflammatory back pain doesn’t suffice to make the diagnosis of AS, that requires additional criteria, ideally including a positive MRI, which has the greatest sensitivity and specificity of the various diagnostic criteria, according to Dr. Rudwaleit.

He and his coworkers have developed a method of calculating AS probability based on applying the like-likelihood ratios (LRs) of the individual AS parameters. For example, a positive MRI carries an LR of 9.0 based upon its high sensitivity and specificity. If a patient has a positive MRI plus inflammatory back pain, which has an LR of 3.1, plus heel pain, with an LR of 3.4, and elevated acute phase reactants, with an LR of 2.5, the resultant LR product is 237, indicating a greater than 90% probability of AS.

The MRI findings are so important in diagnosing early AS that Dr. Rudwaleit considers a clearly positive MRI to be a prerequisite for anti-tumor necrosis factor therapy. Anti-TNF agents have proved highly effective in AS. There is hope that their early use will slow down disease evolution. The definitive evidence for this isn’t in yet, but it’s an exciting possibility that has added further impetus to efforts to diagnose AS earlier.

MRI Can Expedite Earlier Diagnosis of Ankylosing Spondylitis

BY BRUCE JANCIN
Denver Bureau

PARIS — Cardiac risk in rheumatoid arthritis (RA) is on the rise. The prevalence of cardiovascular disease is now 25.7% in RA patients compared with only 7.9% in controls (Arthritis Rheum. 2006;54:569-78).

As the disease evolved, the sensitivity and specificity of the traditional cardiovascular risk factors, as well as smoking, hypertension, and some other factors, decreased. The sensitivity of smoking, for example, dropped from 86.6% at diagnosis to 8.6% at 3 years. As a result, annual screening for cardiovascular disease in the RA population has declined (COPR. 2006;54:569-78).

Furthermore, MRI screening has been shown to be extremely useful in detecting early disease (Arthritis Rheum. 2006;54:569-78).

In their recent study, the researchers found that the prevalence of cardiovascular disease is now 21.6% in patients with type 2 diabetes, 15.7% in those with RA, and 9.7% in controls. After adjustment for differences in age, gender, and rates of the traditional cardiovascular risk factors, the prevalence of cardiovascular disease was found to be 85% greater in diabetic patients than controls, and 51% greater in the RA group than controls. The rates in diabetic and RA patients were not significantly different.

“Cardiovascular disease is the leading cause of death in RA patients,” said Dr. David J. Solomon at the annual European Congress of Rheumatology.

Although no validated screening tools exist at this time, this study demonstrates the need for repeated screenings to identify cardiovascular disease in RA patients. The study also shows that MRI screening can be used to expedite earlier diagnosis of ankylosing spondylitis (AS), which often involves extensive work absenteeism and deteriorating quality of life, take place during what would ordinarily be among the most productive years of life.

“We think that we can use MRI screening to expedite earlier diagnosis of AS, which is an important finding because early diagnosis can delay disease evolution. The definitive evidence for this isn’t in yet, but it’s an exciting possibility that has added further impetus to efforts to diagnose AS earlier.”

Cardiovascular Risk in RA Echoes Type 2 Diabetes

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