Psychosocial Factors Predict Low Back Pain Events

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CHICAGO — A patient's psychological state appears more predictive than physical abnormalities of outcomes from persistent benign low back pain following herniated disk surgery, according to the conclusions of a prospective, longitudinal study.

The hypothesis from the outset was that physical findings such as disk degeneration, annular disruption, and end-plate changes would most strongly predict serious future low back pain events. However, the data did not support that theory, lead investigator Eugene J. Carragee, M.D., said at the annual meeting of the North American Spine Society.

In fact, psychosocial variables were strongly predictive of both long- and short-term disability events and health care visits for low back pain problems. Smoking and a previous workers' compensation claim also were predictive of outcomes, said Dr. Carragee of Stanford (Calif.) University.

Distressed patients had more weeks of long-term disability and additional short-term work loss than the nondistressed patients.

Patients most likely to have periods of remission from their low back pain were those who were psychologically healthy, as well as those who stopped working a heavy labor job, and those who did not have chronic nonlumbar pain.

Of the physical findings, only moderate or severe Modic changes of the vertebral end plate were weakly associated with an adverse outcome.

The cohort of 100 patients had known risk factors for degenerative lumbar disk disease and a history of mild, persistent, but nondisabling, low back pain lasting more than 2 years after herniated disk surgery.

Patient selection was biased (ratio 2:1) to subjects with a history of chronic nonlumbar pain, as this group is known to be at greater risk for both increased psychosocial and neurophysiologic complications.

At baseline, 22% of patients were distressed or at risk of being distressed according to blinded psychometric testing, and 69% had other chronic pain syndromes, he said.

Physical exams and MRI studies revealed that 70% of patients had degenerated disks and 30% had annular fissures.

During the 5-year follow-up period, there were 134 back pain episodes without disability and 17 episodes with disability including four patients who went on long-term disability.

Positive findings observed in 12 of 25 patients who underwent experimental discography at baseline were not predictive of future episodes of back pain.

Instead, distress at baseline was associated with all the major adverse events. Distressed patients had more weeks of long-term disability, and suffered additional short-term work loss (0.42 episodes versus 0.015 episodes among the nondistressed patients).

Remission of 6 months or longer was reported by 26 patients, and was strongly associated with a decrease in performing heavy labor. The distressed group did not report any 6-month periods of remission, Dr. Carragee said.

Distressed patients used considerably more medical resources, compared with nondistressed patients (3.25 visits per year vs. 0.003 visits, respectively).

During the course of the study, there were 12 new workers' compensation or litigation claims made for low back conditions, half of which were filed by distressed patients early in the study, three by patients deemed at risk of being distressed, and three by patients with normal psychometric scores.

The workers' compensation claims for low back problems were strongly associated with long-term disability, severe back pain episodes, short-term disability, and medical care utilization, Dr. Carragee said at the meeting.

Current smoking status increased the likelihood of short-term disability, long-term disability, and the frequency of back pain episodes, but there was no significant association between smoking and health care visits or remission rates. ■