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ACDF procedure probable cause of postoperative dysphagia

San Francisco, CA – Although dysphagia is common after anterior cervical decompression and fusion (ACDF), few prospective studies have examined its severity and incidence. Further, those studies that have been performed have been limited by the lack of a control group or a retrospective design. The findings were presented today at the North American Spine Society's 24th Annual Meeting in San Francisco.

In their study, Jeffrey A. Rihn, MD, and colleagues at The Rothman Institute, Thomas Jefferson University Hospital, Philadelphia, studied this issue, comparing results to a control group undergoing lumbar decompression. They found that the anterior cervical procedure itself was the likely cause of postoperative dysphagia.

“This study shows that dysphagia is a relatively common but, fortunately, transient phenomenon following anterior cervical spine surgery,” said Rihn, assistant professor of spine surgery at Thomas Jefferson University. “Because dysphagia was not seen in the lumbar spine patients, it is likely due to the anterior cervical surgery itself, rather than other potential causes, such as endotracheal tube placement and general anesthesia.”

Rihn said that a combination of factors causes dysphagia: soft tissue swelling in the neck, esophageal dysmotility and altered sensation resulting from traction on the nerves during surgery. “These are not an issue in lumbar spine surgery.”

The study was performed at a single institution and involved 94 patients undergoing one- or two-level ACDF (n=38) or posterior lumbar decompression (n=56) for a degenerative condition.

“This study was a prospective, controlled study, which offers a high level of evidence,” Rihn said. “We controlled for factors other than having anterior cervical spine surgery that could contribute to postoperative dysphagia by also studying postoperative dysphagia in patients who have lumbar decompression.”

Participants completed a dysphagia questionnaire preoperatively, and at two, six and 12 weeks postoperatively.

Rihn and colleagues noted no significant differences in patient age, body mass index or preoperative incidence and severity of dysphagia between the two groups. The lumbar group included more men than the cervical group (63% vs. 29%, $P=0.001$).

The two groups had statistically significant differences in dysphagia at two and six weeks; at 12 weeks, the cervical group showed a trend toward increased dysphagia. At two weeks, 21.1% of cervical patients reported severe dysphagia and 39.5% reported moderate dysphagia. In the lumbar group, 1.8% of patients reported severe dysphagia and 8.9% reported moderate dysphagia ($P < 0.0001$).

Patients in the cervical group had a statistically significant increase in the dysphagia numeric rating score at two and six weeks postoperative compared with preoperative scores. In contrast, lumbar patients had no significant increase at any point during follow-up compared to preoperative scores.

Patients with two-level procedures had higher levels of postoperative dysphagia versus patients with one-level surgery. Patients who had surgery on higher levels — C4-5 or above — did not have any difference in dysphagia compared with patients who had surgery on lower levels — C5-6 or below.

Dysphagia incidence and severity decreases over time, although patients may have symptoms for at least 12 weeks postoperatively.

“This study is important because it gives further insight into postoperative dysphagia following anterior cervical spine surgery,” Rhin said. “Understanding the incidence, severity and duration of postoperative dysphagia is helpful when discussing surgery with patients preoperatively and when managing patients postoperatively who develop dysphagia.”

About NASS

The North American Spine Society (NASS) is a multidisciplinary medical organization dedicated to fostering the highest quality, evidence-based, and ethical spine care by promoting education, research, and advocacy. NASS is comprised of more than 5,500 members from several disciplines including orthopedic surgery, neurosurgery, physiatry, neurology, radiology, anesthesiology, research, physical therapy and other spine care professionals. For more information, visit www.spine.org.

About NASS' 24th Annual Meeting

NASS' 24th Annual Meeting is being held in San Francisco, November 10-14, 2009, at the Moscone Center South. For more information, or to view press releases related to the meeting, please visit [NASS' Annual Meeting Web site](#).