

Laparoscopic Disk Fusion Rivals Open Surgery

BY SHERRY BOSCHERT
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SAN DIEGO — Laparoscopic approaches to disk fusion challenge the results of open surgery, allowing shorter hospitalizations, Tallal M. Zeni, M.D., said at an international congress of the Society of Laparoendoscopic Surgeons.

The retrospective analysis looked at procedures performed between 1998 and 2003 involving anterior interbody fusion at L5-S1 in a series of 28 consecutive patients. The procedures were done to treat either degenerative disk disease or spondylolisthesis. One of three types of metallic cages and either iliac bone graft or recombinant human bone morphogenetic protein (rhBMP-2) were used to prepare the cage for fusion, he said.

All patients had failed 6 months of conservative management for back pain. Five patients had undergone previous surgery for degenerative disk disease, including discectomy in three patients and laminectomy or prior fusion in one patient each.

All patients achieved fusion after the laparoscopic surgery, assessed by flexion and extension radiographs 1 year post operatively. Visual analog scale pain scores

improved from a preoperative score of 9 to a score of 3 at the 1-year follow-up exam, reported Dr. Zeni and his associates. He conducted the study while a fellow at Evanston (Ill.) Northwestern Healthcare and now practices at St. Mary Mercy Hospital, Livonia, Mich.

The rates of fusion and pain improvement are comparable with those reported for open surgical repair in the literature, he said. Patients spent a mean of 4 days in the hospital, less time than typi-

cally is needed after open surgery. One patient remained hospitalized for 15 days, and others stayed from 2 to 6 days.

The operation lasted a mean of 225 minutes but decreased to 190 minutes after 2001, when the surgeons began using rhBMP-2 instead of iliac bone graft. Mean estimated blood loss was 145 cc.

Twenty-four patients underwent bilateral cage placement. In the other four patients, only a unilateral cage could be placed because of looseness of the cage or

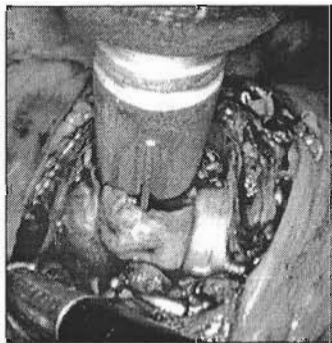
other problems. These patients received a supplementary posterior pedicle screw during the surgery.

Bladder injuries in two patients during placement of a wire needle into the disk space were recognized intraoperatively and repaired with a single stitch.

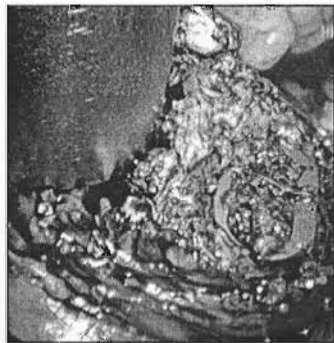
Four patients required laparoscopic reoperation. One patient fell 3 days after surgery, displacing the cage. Another developed subacute radiculopathy 1 week after discharge, and a CT scan showed lateral cage displacement. A third patient developed chronic radiculopathy 6 months after the surgery, and a fourth developed a small bowel obstruction resulting from adhesions to the cage.

Most of the complications occurred early in the learning curve for the procedure, and were less frequent after adoption of rhBMP-2 instead of iliac bone graft, Dr. Zeni said. The procedures were performed jointly by C.T. Frantzides, M.D., FACS, a laparoscopic surgeon, and F.M. Phillips, M.D., an orthopedic surgeon. The report won first prize among multispecialty papers presented at the meeting.

Dr. Zeni said that he has no conflicts of interests with the makers of the spinal cage or rhBMP-2. ■



A trephine evacuates the disk space until bleeding bone is exposed.



The final appearance of the metallic cage put in place for fusion.

PHOTOS COURTESY DR. TALLAL M. ZENI