کارگاه‌های آموزشی مرکز اطلاعات علمی

مقاله نویسی علوم انسانی

اصول تنظیم قراردادها

آموزش مهارت های کاربردی در تدوین و چاپ مقاله
The Authors Reply

Xiangdong Duan1, Qingyong Hu1 and Zhiqiang Wang2

1Department of Orthopedics, Orthopedic Hospital of North China Coal Medical College, No.21 North Jianshe Road, Tangshan Hebei, 063000, China.
2Department of Orthopedics, Affiliated Hospital of North China Coal Medical College, No.73 South Jianshe Road, Tangshan Hebei, 063000, China.

Corresponding author:
Xiangdong Duan, PhD,
Department of Orthopaedics, Orthopaedic Hospital of North China Coal Medical College.
Mobile: +8613583100168
E-mail: duan00168@163.com

Iran J Med Hypotheses Ideas, 2009, 3:2
© 2009 Xiangdong Duan, Qingyong Hu and Zhiqiang Wang; licensee Tehran Univ. Med. Sci.

To the Editor:

We greatly appreciate the letter by Dr. Yu regarding our paper, "Application of tridimensional intravertebral bone graft combined with AxiaLIF technique in lumbar interbody fusion" (1).

Percutaneous 360° AxiaLIF technique mainly contains of operative approach; axial technique and posterior stabilization methods. Different from other lumbar interbody fusions, the technique can maintain the integrity of bilateral facet, anterior/posterior longitudinal ligament and the anulus. 3D AxiaLIF RodTM provides axial supporting and firm fixation, permits distraction across the disc space, thereby restoring the height of intervertebral space and foramen; restoring the whole height and physiological curvature of the lumbar. Reduction can be seen of the folded flavum, posterior longitudinal ligament and the herniated anulus. The symptoms of nerve root canal stenosis and central vertebral canal stenosis are improved too. The clinical results of percutaneous 360° AxiaLIF technique are excellent while lacking long term follow-up and narrowing in indications.

Based on biomechanics, the AxiaLIF technique mainly has two potential defects: (A). Rod cutting vertebral cancellous bone. When spine moves flexion, extension and laterexion, it can cause the cage sinking and fusion failure, easily to see among osteoporotic patients. Posterior stabilization may decrease such complication. Anything that increases the bone mineral density will get the optimal hold. Besides intravertebral bone graft, using a thinner drill may be another choice. Micro fractures of the working channel can be seen when the rod is inserted, bone mineral density in vertebra is added too. We agree with the idea of Yu. (B). Insufficiency of intervertebral bone graft. Less bone is inserted in the intervertebral space because bone grafts have the possibility of oppressing dura sac. So the fusion process is more like enchondral ossification. There are just blood clots in the intervertebral space at early stage after operation, these clots will be changed into fible tissue then into cartilages, eventually these cartilages will be gradually replaced by rigid calcified tissue. Of course the fusion process is long and even more than 1 year. Endochondral ossification can be changed into direct intramembranous ossification by grafting enough bone in the intervertebral space with a special instrument, and the fusion time will be shortened dramatically.

As the last point, the instrument we described is in its embryonic period, not more of a mature technique. Biomechanical and clinical experiments are needed to test the feasibility of clinical application. Yet it should be developed, and the potential defects of AxiaLIF should be detected.

We thank the author for the letter. We appreciate the thoughts.

Reference

کارگاه‌های آموزشی مرکز اطلاعات علمی

- مقاله نویسی علوم انسانی
- اصول تنظیم قراردادها
- آموزش مهارت های کاربردی در تدوین و چاپ مقاله