Letters to the Editor

NEUROSURGICAL FORUM

Dynamic Cervical Implant

TO THE EDITOR: Matgé and coauthors¹ (Matgé G, Berthold C, Gunness VRN, et al: Stabilization with the Dynamic Cervical Implant: a novel treatment approach following cervical discectomy and decompression. *J Neurosurg Spine* 22:237–245, March 2015) presented a prospective study with excellent results, in which 53 patients underwent Dynamic Cervical Implant (DCI) stabilization after anterior decompression for the treatment of cervical disc disease. Matgé and colleagues have made a great contribution to the surgical treatment of cervical spondylosis by designing the DCI, a unique motion-preserving interbody implant. Generally, the indication for the DCI is degenerative disc lesions between the levels of C-3 and C-7, as reported by the authors. Cervical spondylosis rarely involves the level of C2–3, whose management is challenging. We made an attempt to apply the DCI at this level. The patient was a 47-year-old man who underwent anterior cervical discectomy with DCI fixation to treat his disc herniations at levels C2–3 and C3–4 (Fig. 1). The operation went smoothly, except for difficulties due to the blocking of the mandibular angle. The result was satisfy-

ing at the 1-year follow-up. We believe that DCI, with its integrated design and simple implant procedure, has advantages over total disc replacement or anterior cervical discectomy and fusion in cervical anterior surgery at high levels like C2–3. The relative position between the mandibular angle and the C2–3 cervical disc must be noticed preoperatively, as it could bring great difficulty in certain cases. We would like to know if it is reasonable to insert a DCI at the level of C2–3. Are there any other issues that need to be considered, as we are using the DCI beyond the recommended indications for the product?

Jinping Liu, MD^{1,2}Hailong Feng, MD²¹West China Hospital, Sichuan University, Chengdu, Sichuan, China²Sichuan Provincial People's Hospital, Chengdu, Sichuan, China

DISCLOSURE

The authors report no conflict of interest.

Reference

1. Matgé G, Berthold C, Gunness VRN, Hana A, Hertel F: Stabilization with the Dynamic Cervical Implant: a novel treatment approach following cervical discectomy and decompression. *J Neurosurg Spine* 22:237–245, 2015

Response

I thank Drs. Liu and Feng for their positive comments regarding the use of DCI. They tried an operation at C2–3, which is very demanding given anatomical factors, in particular the high level of exposure hindered by the mandibular angle. The approach to the C2–3 disc is well known by surgeons treating odontoid fractures by direct anterior screwing, where the angle is steeper (more favorable), but even in this case we must sometimes put some upward manual traction on the mandible to clarify the anatomy. In any case, a positioning in cervical hyperextension is mandatory for success, so be careful in cases of severe stenosis and myelopathy (C3–4 in the presented case). The C2–3 disc space is smaller, allowing only small implants, as successfully used by the authors per postoperative views and the 1-year follow-up. As the authors used the DCI beyond the recommended indications between C-3 and C-7, one trick would be to use the less bulky “Lollipop” instrument (Inserter CBT) instead of the proposed implantation tool, but only under radiographic control during insertion, because there is no safety stop on that instrument. There

FIG. 1. **A:** Preoperative sagittal MR image showing disc herniation at the C2–3 and C3–4 level and a compressed spinal cord. **B:** Postoperative lateral radiograph showing the DCIs used after the anterior decompression.

is also a cage under development using the same instruments as for DCI in case there are problems, or for hybrid operations. In the present case with experienced surgeons and 2-level adjacent disc disease, it was reasonable to try the implant. Otherwise, I have used the DCI several times for C7–T1 (beyond the recommended indications) much more frequently if the patient has a long neck and a positive aspect of the clavicle below the disc space on CT or MRI. Although these patients may be treated by posterior microforaminotomy (lateralized disc fragment/stenosis), there will be no cure for ongoing degenerative disc disease.

Guy Matgé, MD

Centre Hospitalier de Luxembourg, Luxembourg

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