Neurosurgical Forum
LETTERS TO THE EDITOR

Percutaneous transforaminal endoscopic discectomy versus microendoscopic discectomy

TO THE EDITOR: We read with great interest the article by Chen et al.¹ (Chen Z, Zhang L, Dong J, et al: Percutaneous transforaminal endoscopic discectomy compared with microendoscopic discectomy for lumbar disc herniation: 1-year results of an ongoing randomized controlled trial. *J Neurosurg Spine* 28:300–310, March 2018). They concluded that in patients with lumbar disc herniation (LDH), at 1-year follow-up percutaneous transforaminal endoscopic discectomy (PTED) did not show superior clinical outcomes over microendoscopic discectomy (MED) and was not safer than MED. PTED demonstrated inferior results for median disc herniations and MED was not the best treatment option for far lateral disc herniations. We commend the authors for performing this study on a topic that is clinically very relevant, in view of the rising trend of minimally invasive spine surgery (MISS).⁵ We would like to highlight certain important issues related to the paper.

The authors concluded that the postoperative in-bed time and hospital stay were much shorter for the PTED group than the MED group. However, as reported in their study, the mean postoperative hospital stays for the PTED and MED groups were 8.1 and 11.2 days, respectively.^{4,5} The available literature and current clinical practice evidence supports that both these procedures are “day-care” surgeries and patients can ideally be discharged within 24–48 hours of surgery. We would like to know the reason for this prolonged hospital stay in the majority of their patients.

Another intriguing point as highlighted by the authors is the recurrence of LDH in patients who had undergone PTED and MED. Five patients needed reoperation in the PTED group and 3 in the MED group. Of these 5 patients, 2 underwent MED as a second procedure and 1 needed a repeat PTED. One patient in the MED group needed repeat MED and 1 needed a second procedure (PTED) for pain relief. In these patients with recurrent disc disease, why was a second surgery necessary within 1 year? Also, we would like to learn which patients were chosen for a similar procedure and which for the other procedure, following the recurrence. Was the recurrent LDH (central/paramedian/far lateral) in a different site than the disc

herniation prior to the first surgery? Also, were there any similar demographic parameters between these patients that could predict recurrence?

Different schools of thought exist regarding the applicability and efficacy of MISS for recurrent LDHs.³ Recurrences following MED are usually due to incomplete removal of the degenerated nucleus pulposus within the disc space and its repeated dislocation into the spinal canal. In a repeat MED, access to the herniated nucleus pulposus becomes difficult in the presence of overlying scar tissue. In addition, the incidence of spinal dural injury attempting clearance of the scar tissue is 13% with MED⁶ and 8%–18% with open discectomy.²

Sanjeev Ariyandath Sreenivasan, MS

Manoj Phalak, MCh

Sachin Anil Borkar, MCh

Shashank Sharad Kale, MCh

All India Institute of Medical Sciences, New Delhi, India

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Disclosures

The authors report no conflict of interest.

Correspondence

Sanjeev Ariyandath Sreenivasan: sanjeev_ariyan@yahoo.com.

INCLUDE WHEN CITING

Published online July 13, 2018; DOI: 10.3171/2018.4.SPINE18472.

Response

First, we would like to thank Sreenivasan et al. for showing great interest in our article. We are delighted to continue the discussion about our study and respond to their queries.

Regarding your concern about the length of hospital stay, we would like to clarify that the data we reported in the article was total hospital stay, not postoperative hospital stay. In fact, the mean postoperative hospital stay for the PTED and MED groups was 3.7 and 6.6 days, respectively. However, our data might be different from the studies conducted in other countries. There have been reports of ambulatory surgery or 1-day hospitalization after LDH surgery, but our data is consistent with most studies from China.^{6,7} It should be noted that the so-called “prolonged hospital stay” is not related to clinical outcomes; one of the major reasons is that some of the patients would like to get discharged after suture removal so as to avoid visiting the hospital again in a short period of time.

It has been reported that more than half of the cases with recurrence occurred within the first postoperative year.^{3,4} Eight patients with residual/recurrent herniation (homolateral herniation at the same level) underwent reoperation in our study within the 1-year follow-up. Initially they were managed conservatively, which failed to relieve the pain, and thus surgical intervention was warranted.

MED, which offers a broad visualization of the surgical field, is considered to be a good treatment option for recurrent LDH.^{2,7} In our study, 4 of the 5 patients in the PTED group with residual/recurrent herniation underwent MED as a second operative procedure. The remaining patient underwent repeat PTED because she requested a surgery that could be performed under local anesthesia. Moreover, the recurrent herniation was a paramedian type at the L4–5 segment, which we believed could be easily removed using the PTED procedure.

PTED has a good efficacy in recurrent herniated discs after open discectomy and MED because the posterior scar tissue is avoided during the procedure.¹ Nevertheless, repeated MED is also an effective surgical option for recurrent LDH.^{2,5} We performed repeat MED in one such case in the MED group because the herniation was of the median type at the L5–S1 segment. Most experts may also consider PTED a difficult procedure to perform in addressing this type of recurrent herniation.

We agree with the consideration that repeat MED is associated with a high incidence of dural tear, typically

during dissection of the scar tissue. However, it has been reported that the dural tear is usually quite small and no further durotomy-associated complications were encountered.^{2,5} In addition, no neural injuries were observed in previous studies.^{2,5} Hence, we believe that MED is a safe and effective procedure for recurrent LDH, regardless of whether the initial surgery was performed using MED or conventional open techniques.

Zihao Chen, MD
Liangming Zhang, MD
Peigen Xie, MD
Feng Feng, MD
Ruiqiang Chen, MD
Kishor Chhantyal, MBBS
Limin Rong, MD

The Third Affiliated Hospital of Sun Yat-sen University,
Guangzhou, China

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Published online July 13, 2018; DOI: 10.3171/2018.5.SPINE18493.

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