

Reoperation for herniated thoracic discs

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In this review the authors address the surgical strategies required to resect residual thoracic disc herniations. Fifteen patients who had undergone prior thoracic discectomy and who harbored residual or incompletely excised symptomatic thoracic discs were reviewed retrospectively. The surgical procedures that had failed to excise the herniated discs completely included 11 posterolateral approaches, one thoracotomy, and three thoracoscopic procedures. Of the incompletely resected or residual disks 13 were central calcified, two were soft, 12 were extradural, and three were intradural discs. Indications for reoperation were often multiple in each patient and included misidentification of the level of disc disease at the initial operation (five cases), abandoning the procedure because of intraoperative spinal cord injury (three cases), inadequate visualization of the pathology (eight cases), migration of a soft disc fragment within the spinal canal (one case), and intradural disc extension (three cases). The symptoms at the time of reoperation included myelopathy in 13 patients and radicular pain in two. The mean interval before reoperation was 150 days (range 1 day–4 years). The reoperation procedures included one thoracotomy and 14 video-assisted thoracoscopic procedures performed ipsilateral (11 cases) or contralateral (four cases) to the site of the initial surgery.

The herniated disc material was excised completely in all 15 cases without causing new neurological deficits. Reoperation complications included atelectasis in three patients, intercostal neuralgia in two, a loosened screw that required removal in one, and a cerebrospinal fluid leak in one patient. Of the 13 patients who experienced myelopathy preoperatively, 10 recovered neurological function and three stabilized. All patients with radicular pain improved.

Calcified, large, broad-based, centrally located, or transdural thoracic disc herniations can be difficult to resect. These lesions require a ventral operative approach to visualize the dura adequately for a safe and complete resection.

KEY WORDS • disc herniation • discectomy • thoracic spine • thoracoscopy

Herniated thoracic discs can present formidable technical and surgical challenges and can be difficult to remove. Discs that are large and broad based, calcified or ossified, those that extend transdurally, and those that invaginate the dura and spinal cord are the most challenging lesions to treat surgically. In relatively few reported surgical series is there a discussion of the treatment of herniated thoracic discs.^{1–4,6,11,13–15,17–24,26–28} Furthermore, the literature does not address surgical treatment failures or strategies for the reoperation of residual or recurrent thoracic disc herniations.

Working among three tertiary referral centers that specialize in the treatment of thoracic discs, we have had the opportunity to treat 15 patients surgically for symptomatic residual thoracic discs. This experience has allowed us to examine the factors that contributed to incomplete disc removal and to recommend several reoperative strategies to ensure complete removal of these lesions while causing minimal morbidity.

CLINICAL MATERIAL AND METHODS

The clinical records, radiographs, and imaging studies of 15 patients who had undergone prior thoracic discectomy and who harbored residual, incompletely excised symptomatic thoracic disc herniations were reviewed retrospectively. This number represents 8% of the 187 patients with thoracic disc disease referred for surgery to our three facilities between 1992 and 1996. Their original radiographs and imaging studies, clinical records, and operative records were reviewed, and the original surgeons were usually contacted to discuss the original operations.

At the time of referral to our facilities for reoperation, the diagnostic studies, clinical characteristics, residual disc material, reoperative strategies, and clinical outcome of the patients were assessed. The details of the reoperative procedures, complications, and postoperative course were examined thoroughly. Postoperative computerized tomography (CT) scans and/or magnetic resonance (MR) images were obtained in all patients. Follow-up review consisted of outpatient office visits in which clinical ex-