Modification of Cloward cervical retractor

Technical note

LYAL G. LEIBROCK, M.D., AND BRADLEY M. BERMAN, M.D.

Department of Neurosurgery, University of Nebraska Medical Center, Omaha, Nebraska

A modification of a Cloward lateral cervical retractor with sharp blades is described. The purpose of the adaptation is to help prevent injuries to soft tissues of the neck and to facilitate placement during anterior cervical discectomy and fusion.

KEY WORDS • anterior cervical fusion • Cloward retractor • esophageal perforation • discectomy • cervical disc • instrumentation

ANTERIOR cervical discectomy with fusion has become a common operation in neurosurgical practice for cervical degenerative disc disease, spondylosis, and trauma.1,2 One of the most threatening complications that may occur with this procedure is injury to the soft tissues of the neck, such as the esophagus, trachea, or carotid artery.1 During the performance of this operation, large numbers of neurosurgeons almost daily use Cloward cervical retractors to displace the cervical contents laterally and in a cephalocaudad direction. This technical note deals with a modification of the lateral Cloward cervical retractors equipped with five sharp blades. The modification is made in an attempt to help prevent injury to the soft tissues of the neck.

The lateral cervical retractor with five sharp teeth can be difficult to position beneath the longus colli muscles in an individual with large anterior osteophytes. When lateral traction is placed on the blades, if they are not adequately seated they will pull ventrally in the wound, increasing the possibility of injury to the esophagus and the carotid artery (Fig. 1). We have modified the retrac-

![Fig. 1. Left: Standard Cloward lateral retractor in position, with five sharp blades pointing toward the esophagus and carotid artery. Right: Modified Cloward lateral retractor with the five sharp blades pointing toward the transverse process away from the soft tissues of the neck.](image-url)
tor so as to bend the sharp teeth to an approximate 45° angle from the straight perpendicular. This helps position the blades under the longus colli muscle. Furthermore, when lateral traction is applied the blades will push laterally and dorsally away from the soft tissue of the neck to the anterior portion of the transverse process of the vertebra (Fig. 1 right).

We have used this modification of the Cloward lateral cervical retractor for the past 5 years and have experienced no instances of soft-tissue injury in the neck. The modification has further facilitated the placement of the lateral retractor, particularly in patients with large anterior osteophytes.

References


Manuscript received December 12, 1983.
Address reprint requests to: Lyal G. Leibrock, M.D., University of Nebraska Medical Center, 42nd and Dewey Avenues, Omaha, Nebraska 68105.