

Anterior cervical fusion for CSM

Bong Ju Moon

Chonnam National University Hospital and Medical School

Anterior cervical approaches include single- or multiple –level anterior discectomies or corpectomies followed by arthrodesis with autogenous or allogenic bone grafts. This approach is usually accompanied by the use of anterior instrumentation to prevent graft extrusion and pseudarthrosis. The anterior approach allows for direct decompression of anterior pathologic structures contributing to spinal cord compression. Other advantages of the anterior approach are that it allows for correction of sagittal plane alignment in patients with loss of cervical lordosis. Sagittal plane deformity correction is more difficult to achieve from posterior approaches. Patients with evidence of spinal cord compression solely at the disc levels are candidates for anterior cervical discectomy and fusion (ACDF). Multilevel ACDFs, requiring multiple bone grafts or cages, increase the number of healing surfaces and thus carry a high risk of pseudarthrosis. Corpectomy is often considered as a substitute for two-level ACDF to reduce the number of healing surfaces from two, with the concomitant theoretical advantage of reducing the risk of pseudarthrosis.

In addition, partial or subtotal corpectomy is indicated when compressive pathologic elements (i.e., osteophyte formation, disk herniation, or OPLL) extend above or below the disk space such that discectomy alone will not achieve adequate anterior decompression. Partial corpectomy involves removal of a portion of the top or bottom of the vertebral body, whereas subtotal corpectomy involves removal of the entire proximodistal extent of the vertebral body with the exception of the lateral walls, which are left intact to protect the vertebral arteries and to stabilize the graft. The corpectomy defects can then be reconstructed and arthrodesed with a combination of structural bone graft, metal cages, and cancellous bone.