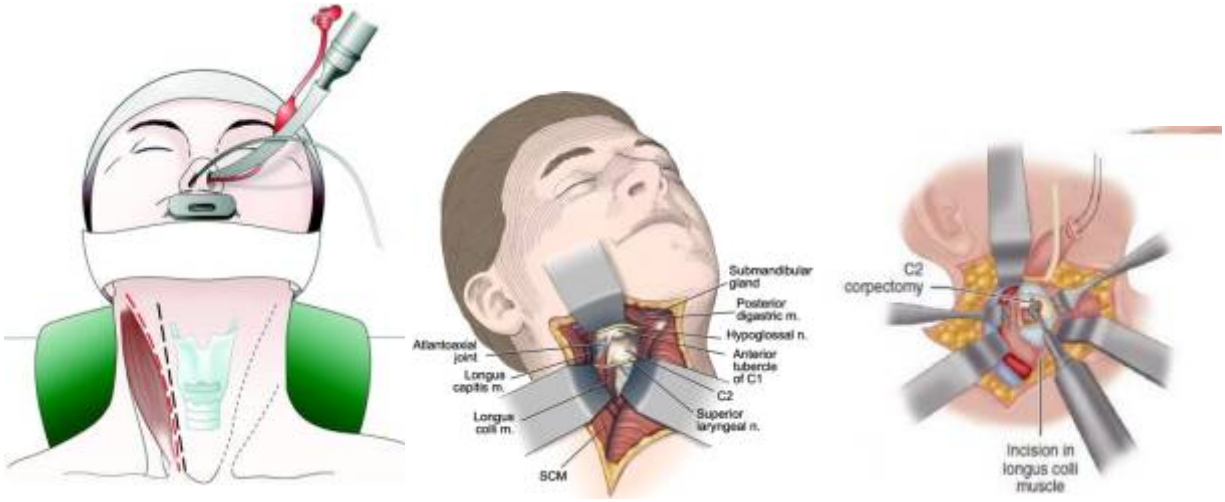
High Cervical Anterolateral Retropharyngeal Approach



The first high cervical anterolateral retropharyngeal approach (HCALR) was reported by Stevenson et al. for a clivus chordoma in 1966. Anterior approaches to the spine have often been developed in response to problems presented by tuberculous spondylitis. This approach is indicated in anterior high cervical spine cases such as tumour resection, abscess drainage, atlantoaxial subluxation; decompression and stabilization.

Only 21 papers in the literature have mentioned this approach. Its main advantage over posterior approaches is easy positioning and minimal need for soft tissue dissection. The HCALR approach provides wide exposure (of the anterior upper cervical spine, lower clivus and brainstem region) and feasibility for instrumentation. The limited space in which important neurovascular and visceral structures course and overlap contributes to the complexity of the anatomy. Navigating this intricate anatomy is essential for the safety of this approach and has been a drawback for utilization of the retropharyngeal corridor. This approach is one of the safest and most effective methods available to access the craniocervical junction. The benefits clearly outweigh the risks and complications [1)].

Case reports

A 64-year-old woman presented with a 5-year history of motor and sensory disturbances in her right upper extremity. Cervical magnetic resonance imaging (MRI) showed a slightly enhanced mass at the C2-C4 level. Sagittal T2-weighted MRI revealed a hyperintense dumbbell-shaped mass involving a damaged C3 vertebral body.

Ito et al. performed a 2-stage operation to achieve gross total removal of the tumor. In the first operation, a posterior approach was used to remove the intracanalicular tumor, achieve spinal cord decompression, and establish a histological diagnosis of the tumor (subsequently diagnosed as a chordoma). In the second operation, gross total removal of the chordoma was achieved via the anterior high cervical retropharyngeal approach. We used iliac bone and titanium plates for the bony fusion.

The results indicate that the high cervical retropharyngeal approach is a reasonable option for

pathologies located in the anterior or anterolateral portions of high cervical regions. This approach is an alternative to the transoral approach to the ventral CVJ and high cervical regions.

1)

Alshafai NS, Gunness VRN. The High Cervical Anterolateral Retropharyngeal Approach. Acta Neurochir Suppl. 2019;125:147-149. doi: 10.1007/978-3-319-62515-7_21. PubMed PMID: 30610315.