

CERVICAL ANATOMY FOR ENDOSCOPY

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Epidemiology

The most frequent pain syndrome in the musculoskeletal system after the low back pain is the neck and arm pain. Classically, every person out of three suffers neck pain at least once in his/her lifetime.⁴ The frequency of chronic neck pain can be as high as 70%. The prevalence of acute neck pain is 10% in males, while the same is 13% in females. Frequency of the acute and self-limiting neck pain reaches 18% in clinical practice.

History

Stookey described some neurological pictures related to the cervical disc herniation in 1928. Schmorl, Keyes and Compere carried out studies on the physiopathology of the intervertebral disc in the early 1930s, and established the grounds for the understanding of disc herniation; with this, the causative relations of the disc herniation were more clearly established. Bailey and Badgley published the anterior approach in cervical traumas in 1952 and opened an important route in the surgical treatment. Following this, Cloward and Smith-Robinson separately described the cervical discectomy and fusion as a surgical technique in 1958. Following this, Hirsch reported a series of 7 patients with cervical disc pathologies that they had performed simple discectomy in 1960.⁹ Cervical discectomy that became popular gradually gained greater success with the introduction of the surgical microscope to the spinal cases enabling the shift to micro discectomy step. However, the complications related to the classical open surgery and fusion and long recovery periods led to the searches for minimal invasive methods also in the cervical disc herniation. Starting from 1990s, experiences achieved in the arthroscopic surgery and advanced endoscopic instruments together with the laser technology allowed the application of anteroposterior cervical discectomy procedures with percutaneous endoscopy or endoscopic help.⁶

Anatomy and Physiopathology

The knowledge of surface anatomy in cervical spine is mandatory to perform any open or minimally invasive procedures such as in endoscopy approaches. This helps to locate the surgical level especially for the proper needle trajectory to the disk space. The most prominent surface structure in anterior such as thyroid cartilage, hyoid bone, and cricoid cartilage. The most prominent surface structure in posterior are occipital protuberance for the upper part and the vertebral prominence (spinous process of C6, C7 or T1) for the lower part of cervical. The musculature of the neck is very important as a landmark of lateral dissection both in anterior or posterior approach for avoidance of neurovascular injuries.