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Brief Review on Far Lateral Approach in Skull Base Surgery

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Mini-Review

Tumors extending from temporal bone in a posteroinferior direction or those which originate from upper posterior neck or clivus, can be reached by employing the far lateral approach. In the far lateral approach the surgical incision would be like a question mark beginning in the occiput, rounding the postauricular area and then coming down to the upper neck. Semispinalis capitis, longissimus capitis, splenius capitis and trapezius muscles would be separated from the basiocciput and the upper portion of the cervical spine would become exposed [1-3]. Exposure of the vertebral artery would be done and the identification of the foramina transversaria in the area which has the tumor's involvement, would also be done. It is important to take enough care to avoid causing injury to the vertebral artery while drilling the bone of the spinous processes away, unless the artery is invaded by the lesion which sacrificing the artery can be decided preoperatively by SPECT scan or balloon test occlusion. The vertebral artery should be moved upwardly to the foramen magnum. Then the atlanto-occipital joint would be exposed.

It is important to pay enough attention to the hypoglossal canal and the occipital emissary vein's anatomical position, while drilling the first cervical bone's lateral mass away. Occipital craniotomy will be done and the resection can be extended as far as needed to reach the whole tumor [4]. Based on the instability of the spine, the surgeon will make a decision about occipital-spinal fusion. Atlanto-occipital joint stabilization can be done most commonly by using a plate which would be fixed to the occipital bone and is placed in a direction which would be along with the upper cervical vertebrae lamina. Then the primary closure of the dura would be done or it would be grafted with fascia. Before skin closure, the restoration of the flap of the occipital bone and also the approximation of the muscles would be done. It is important for the skull base surgeon to have enough knowledge about the far lateral approach and important notes related to surgical anatomy of this approach, to gain best surgical results with lowest complications [5,6].

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