

Trigeminal Neurinoma Admitting With Temporal Muscle Atrophy

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Abstract

Trigeminal neurinomas are rarely observed and result in different symptoms depending on the nerve they involve, we discuss the issue under the light of a case who has admitted to our department only with the complaint of muscular atrophy in the temporal region.

INTRODUCTION

Trigeminal neurinomas are rarely encountered tumors in the intracranial portion of the trigeminal nerve. Depending on the nerve root they involve they can have different clinical manifestations. We here present a case experiencing problems of mastication as a result of muscular atrophy in the temporal region.

CASE REPORT

22 year old male patient admitted to our outpatient department with the complaint of collapsing of the left temple region (Figure1). Furthermore, while chewing the food on the left side of the mouth difficulty was experienced. In the neurological examination, there was atrophy of the left temporal region and hypoesthesia of the V1 nerve region. Cornea reflex was not present on the left. Routine blood chemistry analyses were normal. On Cranial MR, there was a lesion with heterogeneously increased contrast enhancement in the left cavernous sinus at fifth nerve localization extending to Merkel's filtrum (Figures 2 and 3). The patient underwent left pterional craniotomy in the neurosurgery department and there was no residue identified on the MRI obtained after the operation (Figure 4). Histopathology revealed a typical neurinoma. In the physical examination carried out two months after the operation, there was a mild improvement in the muscle atrophy and mastication.

Figure 1

Figure 1: Muscle atrophy on left temporal region

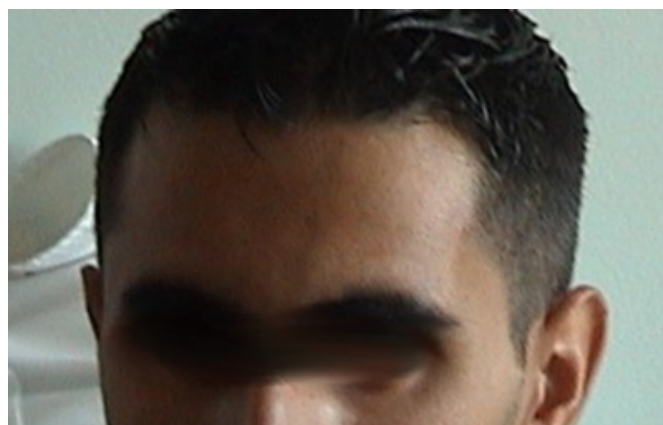


Figure 2

Figures 2 & 3: Lesion with heterogeneously increased contrast enhancement in the left cavernous sinus at fifth nerve localization extending to Merkel's filtrum

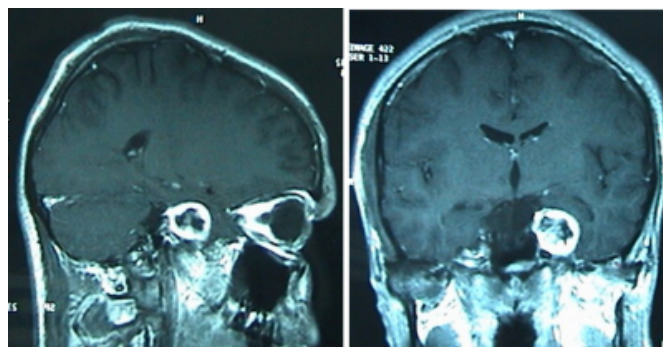
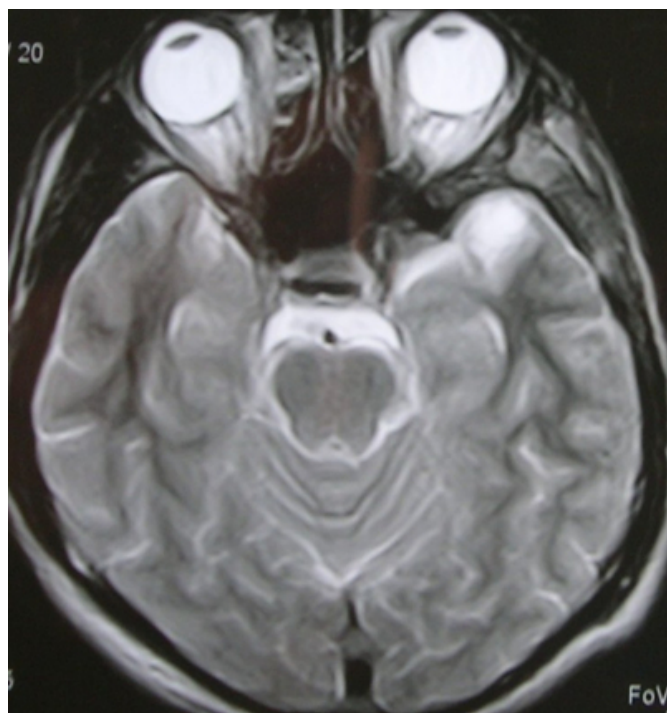


Figure 3

Figure 4: In the postoperative period there was a sequel encephalomalacia on left temporal anteromedial region and there was no tumoral residue.



DISCUSSION

The patient came to us with the involvement of the motor portion of the trigeminal nerve, first the differential diagnosis with pure trigeminal motor neuropathy was carried out. In pure motor neuropathy the sensory branch of the trigeminal nerve is not affected (^{1, 2}). In this case, different than that of pure trigeminal motor neuropathy, in the neurological examination there was a sensory deficit identified in the region corresponding to not previously understood by the patient. With the MR examination, the lesion on the fifth nerve tracing was delineated. In other cases in the literature who have admitted with the involvement of the motor branch of the trigeminal nerve, head trauma and autoimmune causes have been identified in the etiology (^{1, 2 3}).

Trigeminal neurinomas are rarely encountered tumors localized on the intracranial portion of the trigeminal nerve. Neurilemmomas of the trigeminal nerve account for %0,07-0,28 of intracranial tumors and %0,8-8 of intracranial neurilemmomas. (⁴) There is no sex difference. The tumor develops at the ages between 13 and 67 years, with the peak age for presentation being between 38-40 (^{5, 6}).

The trigeminal nerve originates from a sensory root and a motor root which emerge from the pons and gain the middle cranial fossa floor over the apex of petrous ridge before forming the Gasserian ganglion. The three branches of the trigeminal nerve originate at the Gasserian ganglion (⁷). As they can originate from any part between the nerve root and distal extracranial portion, they can have different manifestations depending on the size of the tumor (⁴).

Two thirds of affected patients have initial symptoms of trigeminal nerve dysfunction, primarily irritation and changes in facial sensation. Pain may be present although it is not a constant feature. Further investigation may disclose hypoesthesia or hyperalgesia in one or all divisions of the nerve and decreased or absent corneal sensation. The degree of trigeminal dysfunction as well as the relationship between impairment of sensation and motor function may vary considerably (^{6, 8, 9}).

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References

1. Ko KF, Chan KL. A case of isolated pure trigeminal motor neuropathy. Clin Neurol Neurosurg. 1995 May;97(2):199-200
2. Takamatsu K, Takizawa T, Miyamoto T. A case of pure trigeminal motor neuropathy Rinsho Shinkeigaku. 1993 May;33(5):541-5.
3. Kang YK, Lee EH, Hwang M. Pure trigeminal motor neuropathy: a case report. Arch Phys Med Rehabil. 2000 Jul;81(7):995-8
4. Pollack IF, Sekhar LN, Jannetta PJ, Janecka IP. Neurilemmomas of the trigeminal nerve. J Neurosurg. 1989 May;70(5):737-45.
5. Sim RJ, Beasley N, Milford CA. Trigeminal neurinoma presenting with trismus. J Laryngol Otol. 1999 Dec;113(12):1112-3
6. Zhou L, Ren L, Li S, Guo H. Surgical treatment of trigeminal neurinomas. Chin Med J (Engl). 1999 Mar;112(3):269-72
7. Lesoin F, Rousseaux M, Villette L, Autricque A, Dhellemmes P, Pellerin P, Vaneeckloo JM, Leys D, Jomin M. Neurinomas of the trigeminal nerve. Acta Neurochir (Wien). 1986;82(3-4):118-22.
8. Embry BM, Pritchard R. Trigeminal neurilemmoma: appearance on magnetic resonance imaging. South Med J. 1989 May;82(5):653-6.
9. Fukuda H, Ishikawa M, Iwasaki K, Takase T. Pure V1 trigeminal neuralgia caused by a cryptic trigeminal neurinoma. Acta Neurochir (Wien). 2001;143(2):203-4

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