Turkish Journal of Neurology

Turk J Neurol 2026;32(1):92-94
Doi: 10.55697/tnd.2026.516

LETTER TO THE EDITOR

Cerebellopontine angle schwannoma presenting with Vernet syndrome: A rare case confirmed by electrophysiological findings

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Herein, we presented a case of Vernet syndrome, also referred to as jugular foramen syndrome, caused by a cerebellopontine angle (CPA) schwannoma in a 39-year-old female. The patient was referred to the electromyography (EMG) laboratory due to right shoulder drop. Neurological examination revealed hoarseness, right shoulder drop, difficulty turning the head to the left, loss of taste in the posterior third of the tongue, and an absent gag reflex on the right side (Figure 1).

Nerve conduction studies demonstrated a significantly reduced compound muscle action potential amplitude in the right spinal accessory nerve compared to the contralateral side. Needle EMG revealed fibrillation potentials and reduced recruitment of large, polyphasic motor unit action potentials in the right trapezius muscle (Figure 2). Written informed consent was obtained from the patient. The data were evaluated in accordance with ethical standards for scientific use.

Brain magnetic resonance imaging (MRI) revealed a 42 × 22 mm lesion in the right CPA, compressing the lower cranial nerves. The mass was surgically resected, and histopathological analysis confirmed the diagnosis of schwannoma (Figure 3).

Cerebellopontine angle schwannomas involving lower cranial nerves are rare, accounting for approximately 25% of head and neck schwannomas.[1] Schwannomas typically arise from the vestibular nerve but can occasionally involve the glossopharyngeal, vagus, and spinal accessory nerves, as observed in our case. The clinical presentation can be diverse, ranging from isolated cranial nerve palsies to multiple cranial nerve deficits.[2]

This case underscored the importance of comprehensive diagnostic evaluation, particularly the role of MRI and EMG, in the assessment of lower cranial nerve lesions.[3] Electrodiagnostic studies help localize the site of neural injury and assess the extent of axonal damage. Such techniques can be used preoperatively, intraoperatively, and postoperatively to evaluate and preserve neural function. Similarly, Aydınlar et al.[4] demonstrated that intraoperative neurophysiological monitoring played a crucial

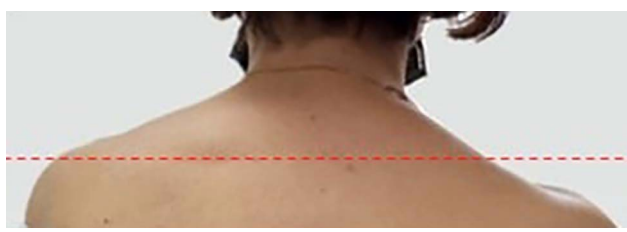

Figure 1. Clinical image showing right shoulder drop and trapezius muscle atrophy.

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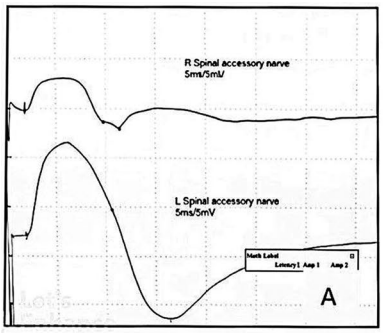
Received: July 10, 2025 **Accepted:** August 19, 2025 **Published online:** December 08, 2025
Cite this article as: Bölük E, Çoban Taşkın A. Cerebellopontine angle schwannoma presenting with Vernet syndrome: A rare case confirmed by electrophysiological findings. Turk J Neurol 2026;32(1):92-94. doi: 10.55697/tnd.2026.516.

(a)



(b)

Spinal accessory nerve conduction study

Test	Side	Stimulation site	Latency ms	Amplitude mV	Area, mVms	Dist., mm	Vel., m/s
R. Trapezius, Accessorius							
1	R	1	1,85	970 µV	1,98		
L. Trapezius, Accessorius							
2	L	1	1,85	18,04 mV	47,25		

(c)

EMG findings summary

Muscle/Side		Ina. Ast.	Fibs.	Pos. Wave	Fasc.	MYO. Disch.	Normal MUP	Poly	Low Amp.	High Amp.	Dur.	Recruit	Int. Pat.
Sternocleidomustold.	R	Normal	+1	+1	0	0	0	++	0	+2	Long	Reduce	Reduce
Trapezius, Upper	R	Normal	+1	+1	0	0	0	++	0	+2	Long	Reduce	Reduce
Tongue	R	Normal	0	0	0	0	0	N	0	0	Normal	Full	Full

Figure 2. Electrophysiological assessment of the spinal accessory nerve. **(a)** Motor nerve conduction study traces showing markedly reduced compound muscle action potential amplitude on the right side compared to the left. **(b)** Tabulated results of the spinal accessory nerve conduction study demonstrating latency, amplitude, and area values. **(c)** Summary of EMG findings showing fibrillation potentials and reduced recruitment in the right trapezius and sternocleidomastoid muscles, while the tongue was preserved.

EMG, electromyography.

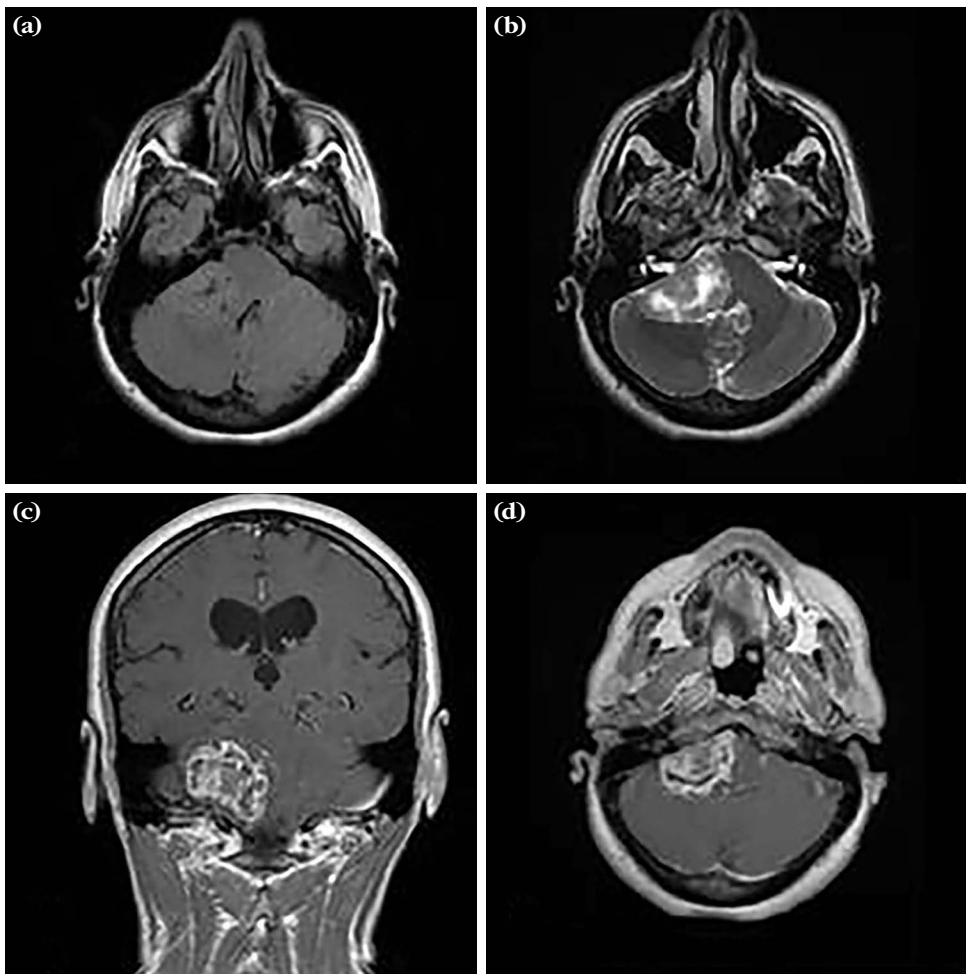


Figure 3. Preoperative MRI findings. **(a)** Axial T1-weighted MRI shows a predominantly isointense lesion at the right CPA. **(b)** Axial T2-weighted MRI demonstrates a hyperintense, expansive mass. **(c)** Coronal T1-weighted contrast-enhanced MRI reveals heterogeneous enhancement. **(d)** Axial T1-weighted contrast-enhanced MRI highlights the irregular borders of the lesion, indicating the extent of tumor involvement.

MRI, magnetic resonance imaging; CPA, cerebellopontine angle.

role in preserving nerve function during spinal schwannoma surgery. In our case, preoperative EMG was essential for the diagnostic confirmation of the CPA schwannoma presenting with Vernet syndrome.

Surgical intervention remains the primary treatment modality; however, postoperative cranial nerve deficits may persist, as observed in our patient.[5]

We believe that this case contributed to existing literature by highlighting the diagnostic challenges and therapeutic considerations in managing Vernet syndrome associated with CPA schwannomas. Further studies are warranted to explore treatment strategies that preserve neurological function while ensuring optimal tumor control.

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Author Contributions: E.B., A.Ç.T.: Idea/concept, analysis/interpretation; E.B.: Design, literature review, writing, data collection/processing; A.Ç.T.: Supervision, critical review; E.B., A.Ç.T.: References and funding.

Conflict of Interest: The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

Funding: The authors received no financial support for the research and/or authorship of this article.

AI Disclosure: The authors declare that artificial intelligence (AI) tools were not used, or were used solely for language editing, and had no role in data analysis, interpretation, or the formulation of conclusions. All scientific content, data interpretation, and conclusions are the sole responsibility of the authors. The authors further confirm that AI tools were not used to generate, fabricate, or 'hallucinate' references, and that all references have been carefully verified for accuracy.

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