# Commentary

Hemifacial spasm is the result of unilateral hyperactive dysfunction of facial nerve resulting in intermittent spasm of facial muscles, which begins from orbicularis oculi and progressively spreads downward to involve other muscles.[1]Hemifacial spasm can be idiopathic, secondary to facial nerve root compression (vascular or by tumor) or secondary to brainstem lesions (multiple sclerosis, trauma, or stroke). Idiopathic cases are seen in 5th to 6th decades, while onset in younger age is usually associated with underlying disease.[2] Vascular compression at the nerve exit zone is the most common cause of hemifacial spasm as evident by excellent results of microvascular decompression in many patients [1,3] and can now be demonstrated preoperatively due to availability of advanced magnetic resonance (MR) techniques like MR angiography and constructive interference in steady state (CISS) sequence.[4,5]

In approximately 0.3% to 0.6% cases, hemifacial spasm is due to the mass lesion in the cerebellopontine (CP) angle cistern,[6] like epidermoid, meningioma, arachnoid cyst,andschwannoma.[3]Epidermoid is the third most common CP angle mass after schwannonaand meningioma. It is a slow growing tumor containing cholesterol and keratin which tends to encase rather than displacing the adjacent structures.[7]Epidermoid is a rare cause of hemifacial spasm with only isolated case reports. The case reported in this issue [8] should alert the clinicians to look for underlying organic cause in cases of hemifacial spasm, especially those presenting at a younger age group. MR imaging provides excellent imaging of various organic causes as well as for demonstration of vascular compression of the nerve exit zone.

Various theories have been proposed for the pathogenesis of hemifacial spasm. It has been proposed that in cases with vascular compression, vascular loop compressing the facial nerve leads to focal demyelination with formation of false synapses and resultant hyperactivity of the facial nerve.[3] Pathogenesis in those with associated CP angle mass isless clear. In many cases, there is associated vascular loop causing compression of facial nerve, while in some cases, the compressive effect may be due to tumor itself.[3,6] It has also been suggested that epidermoid may also cause direct irritation of facial nerve due its contents namely keratin and cholesterol.[3]

In conclusion, hemifacial spasm can rarely be caused by CP angle masses like epidermoid. Clinicians should be well aware of usefulness of MR imaging in this condition. Underlying cause must be looked for, especially if the presentation is in younger age group, as surgical treatment gives excellent results.

**Puneet Mittal**

*Department of Radiodiagnosis,*
*Punjab Institute of Medical Sciences,*
*Jalandhar, Punjab, India*

**Address for correspondence:**
Dr. Puneet Mittal, 448, PremBasti,
Sangrur, Punjab – 148001, India.
E-mail: drpuneetmittal@gmail.com

## References

1. Jannetta PJ, Abbasy M, Maroon JC, Ramos FM, Albin MS. Etiology and definitive microsurgical treatment of hemifacial spasm. Operative techniques and results in 47 patients.J Neurosurg 1977;47:321-8.
2. Ganeshan D, Anand D. Radiological reasoning: Cerebellopontinemass causing hemifacial spasm. AJR Am J Roentgenol 2010;195(3 Suppl):S12-4.
3. Desai K, Nadkarni T, Bhayani R, Goel A. Cerebellopontine angle epidermoid tumor presenting with hemifacial spasms. Neurol India 2003;51:288-9.
4. Tan NC, Chan LL, Tan EK. Hemifacial spasm and involuntary facial movements. QJM 2002;95:493-500.
5. Mittal P, Mittal G. Painful tic conulsif due to vertebrobasilardolichoectasia. J Neurosci Rural Pract 2011;2:71-3.
6. Park H, Hwang SC, Kim BT, Shin WH.Hemifacial spasm caused by a huge tentorial meningioma. J Korean NeurosurgSoc 2009;46:269-72.
7. Bonneville F, Sarrazin JL, Marsot-Dupuch K, Iffenecker C, Cordoliani YS, Doyon D, *et al*. Unusual lesions of the cerebellopontine angle: A segmental approach. Radiographics 2001;21:419-38.
8. Alemdar M. Epidermoid cyst in cerebellopontine angle presenting with hemifacial spasm. J Neurosci Rural Pract 2012;3:344-6.

| Access this article online | |
|---|---|
| Quick Response Code: | Website: www.ruralneuropractice.com |