LETTERS TO EDITOR

DOLICHOECTASIA OF VERTEBROBASILAR SYSTEM:
A RARE CAUSE OF TIC DOULOUREUX

Sir,

Tic douloureux (trigeminal neuralgia), characterized by recurrent episodes of intense lancinating pain in one or more divisions of trigeminal nerve, is a common pain syndrome. Most cases are caused by compression of the root entry zone of the trigeminal nerve by a small ectatic vessel, commonly the superior cerebellar artery.[1] Other rare causes include primary demyelinating disorders, infarcts of the brain stem, tumors and other masses of the posterior fossa. Dolichoectasia of the vertebrobasilar system (VBDE), characterized by enlargement and tortuosity of the vessels, is a rare cause of trigeminal neuralgia.[2] We describe here a case of a 32-year old non-diabetic, non-hypertensive, non-smoker male patient, who presented with a 2-year history of severe lancinating left facial pain in the distribution of second division of trigeminal nerve [V2]. The pain used to come in sudden bursts lasting 1-5 min and recur 20-25 times in a day. Symptoms were exacerbated by talking, chewing, shaving and at times by cool breeze. Earlier for initial few months, the pain responded to increasing doses of carbamazepine and amitriptyline but was later persistent at the time of presentation to our OPD. Examination at that time did not reveal any focal neurological deficit or any sensory loss in the V2 distribution and a normal corneal reflex. The patient was started on increasing dose of Gabapentin, and the dose was hiked to 1800 mg/day, to which the patient responded. MRI revealed indentation of the left aspect of pons with pressure on the left fifth cranial nerve by ectatic basilar artery [Figure 1]. Later, CT angiography depicted the tortuous and dilated basilar artery lying lateral to the margin of the clivus [Figure 2].

Trigeminal neuralgia is usually a disease of

Figure 1: T2 weighted axial MR Image of brainstem region depicts basilar artery causing indentation of the root entry zone of the left trigeminal nerve

Figure 2: Reconstructed 3D CT angiographic image showing the dolichoectasia of basilar artery and its relation to skull base
middle or old age. The episodic attacks usually last for only a few seconds and recur at small intervals.\textsuperscript{[2]} The attacks are triggered by mild sensory stimulation of the trigger zone located within the territory of affected trigeminal nerve. In most cases, there is compression caused by a small vessel on the trigeminal nerve root entry zone, i.e., within a few millimeters of entry of trigeminal nerve into pons. It is postulated that as we age, our arteries elongate and our brains ‘sag.’ As a consequence, redundant arterial loops and bridging of intrinsic hindbrain veins cause compression of cranial nerve root entry zones.\textsuperscript{[3]} The pulsatile compression produces segmental demyelination of the root entry zone, leading to abnormal transmission of impulses.\textsuperscript{[6]}

Direct compression by vertebrobasilar dolichoectasia is an uncommon cause of trigeminal neuralgia, with an estimated incidence of approximately 1\%.\textsuperscript{[3]} Vertebrobasilar system is considered elongated if the basilar artery lies lateral to the margin of the clivus or dorsum sellae or if it bifurcates above the plane of the suprasellar cistern. Ectasia is considered to be present if the basilar artery has a diameter greater than 4-5 mm.\textsuperscript{[4,5]} In majority of cases, severe atherosclerotic changes associated with hypertension have been reported as cause of dolichoectasia of vertebrobasilar system; while in few cases it appears to be due to a congenital vascular anomaly, on the basis of histological observation of defects in internal elastic lamina or thinning of the media secondary to smooth muscle atrophy.\textsuperscript{[6]} This appears to be the possible etiology in our case also in wake of his young age and absence of any other known risk factor.

REFERENCES


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