Condylus tertius and episodic vertigo: is there an association?

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DESCRIPTION

A 39-year-old man presented with acute attack vertigo and vomiting and painful restriction of neck mobility. He was suffering from episodic vertigo with no relief from medication. He had experienced similar episodes over the past 7 years. Initially, episodes of vertigo associated with vomiting occurred once per month but later increased in frequency to 2–3 times per week early in the morning. Daily vertigo/vomiting episodes over the previous 2 months had prevented him from going to work. There was no history of drug intake apart from cinnarazine hydrochloride and betahistine hydrochloride, which he stopped as they provided no relief. The vitals, ear, nose and throat examination and neurological examination were within normal limits. All the other causes of vertigo were ruled out by physical examination, audiogram, calorie test and x-ray of cervical spine. Magnetic resonant vertebral angiogram with head positioned in extreme lateral rotation was normal. MRI of the neck showed condylus tertius (figure 1), which was confirmed by CT scan of the craniocervical junction

Figure 1 MRI craniocervical junction (CVJ) showing pre basioccipital arch with a U-shaped bony prominence on ventral lip of anterior lip of foramen magnum and a well-defined oval corticated space-occupying lesion antero-inferior to the basion that was as contrasting as bone, indicating a possible third occipital condyle (condylus tertius) white arrow.

Figure 2 Condylus tertius CVJ showing an approximately midline, oval and osseous tubercle partly attached to the basion, and to the ventral surface of the basioccipital bone below the rim of the foramen magnum third occipital condyle (condylus tertius) (white arrow).

(figures 2 and 3). He was diagnosed to have cervicogenic proprioceptive vertigo possibly because of condylus tertius. The patient was prescribed rest and physiotherapy of the neck muscles. A soft cervical collar was used to restrict neck movements. He was asymptomatic after 6 weeks and returned to work after 1 month. At subsequent follow-up at 3, 6 and 12 months he remained fully asymptomatic with full functional recovery.

Figure 3 Condylus tertius CVJ axial section suggestive of a third occipital condyle (condylus tertius) (white arrow).

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Learning points

- ▶ Condylus tertius (also known as third occipital condyle, median occipital condyle, or basilar tubercle) is an extremely rare condition, named by Merkel in 1815.¹ There are very few clinical studies of prevalence of condylus tertius in the literature. In humans it is found in approximately 0.5% of the population and may exist as a discrete condyle or an isolated osseous element.¹
- ▶ Abnormalities of the craniovertebral junction, most of which are associated with the occipital bone, are of interest not only to anatomists but also to clinicians because many of these deformities result in clinical symptoms like transient quadriparesis and even death.²
- ▶ Even with advanced imaging modalities, causes of vertigo remain unknown in 13% of cases.³ When the patient presents with refractory vertigo, examination of the craniovertebral junction is appropriate. Cervicogenic dizziness tends to be a controversial diagnosis because there are no diagnostic tests to confirm that it is the cause of dizziness.

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Contributors RC was the primary clinician under whom the patient was admitted, investigated and treated. RNS was in charge of the case, responsible for editing, formatting and revising the manuscript. TV was the Resident in charge of the case. PR is the fourth year medical student responsible for editing and formatting the images. All the authors had an equal role in writing, editing, formatting and revising the manuscript.

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