

Eight And A Half Syndrome

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Abstract

Eight-and-a-half syndrome is a rare pontine syndrome characterised by conjugate horizontal gaze palsy, ipsilateral internuclear ophthalmoplegia and ipsilateral lower motor neuron like facial palsy. Here we describe a case of a 45 year old male presenting with this syndrome. The ocular movements helped in clinching the diagnosis plus the site of lesion.

Keywords: ocular; brain; syndrome; ipsilateral; internuclear ophthalmoplegia; hypertension; ipsilateral paramedian; hypertensive retinopathy;

Case

A 45 year old male, was brought to us with a history of binocular diplopia for two days. There was also a positive history of hypertension, smoking and cerebrovascular accident (left sided hemiparesis) one year back. He had developed sudden onset weakness on the left side of body for the past two days along with binocular diplopia and was admitted in the medicine ward. His visual acuity was 6/24 in the right eye and hand movements close to face in the left eye with no improvement on pinhole. Bilateral pupillary reactions, intraocular

pressure, B Scan ultrasonography were normal. Fundus examination revealed grade 1 hypertensive retinopathy changes. Ocular motor examination revealed combination of right gaze paresis and right internuclear ophthalmoplegia suggestive of horizontal one-and-a-half syndrome. Vertical ocular movements from the primary position were normal. In addition, he also had right lower motor neurone facial weakness with a normal bells phenomenon. Our patient presented with the unique combination of right sided horizontal one-and-a-half syndrome and lower motor neurone seventh cranial nerve palsy (figure 1a,1b,1c,1d).



Figure 1a. Primary gaze



Figure 1b. *Dextroversion*



Figure 1c. *Levoversion*



Figure 1d. *Right sided facial paralysis*

Such a combination of signs (seven plus one-and-a-half) is known as eight-and-a-half syndrome. A differential diagnosis of Millard Gubler syndrome was also kept in mind (in view of the left sided hemiparesis) but

the classic horizontal gaze palsy helped us in clinching the diagnosis.

His computed tomography scan revealed lacunar infarct on the right side of pons (figure 2,2a).

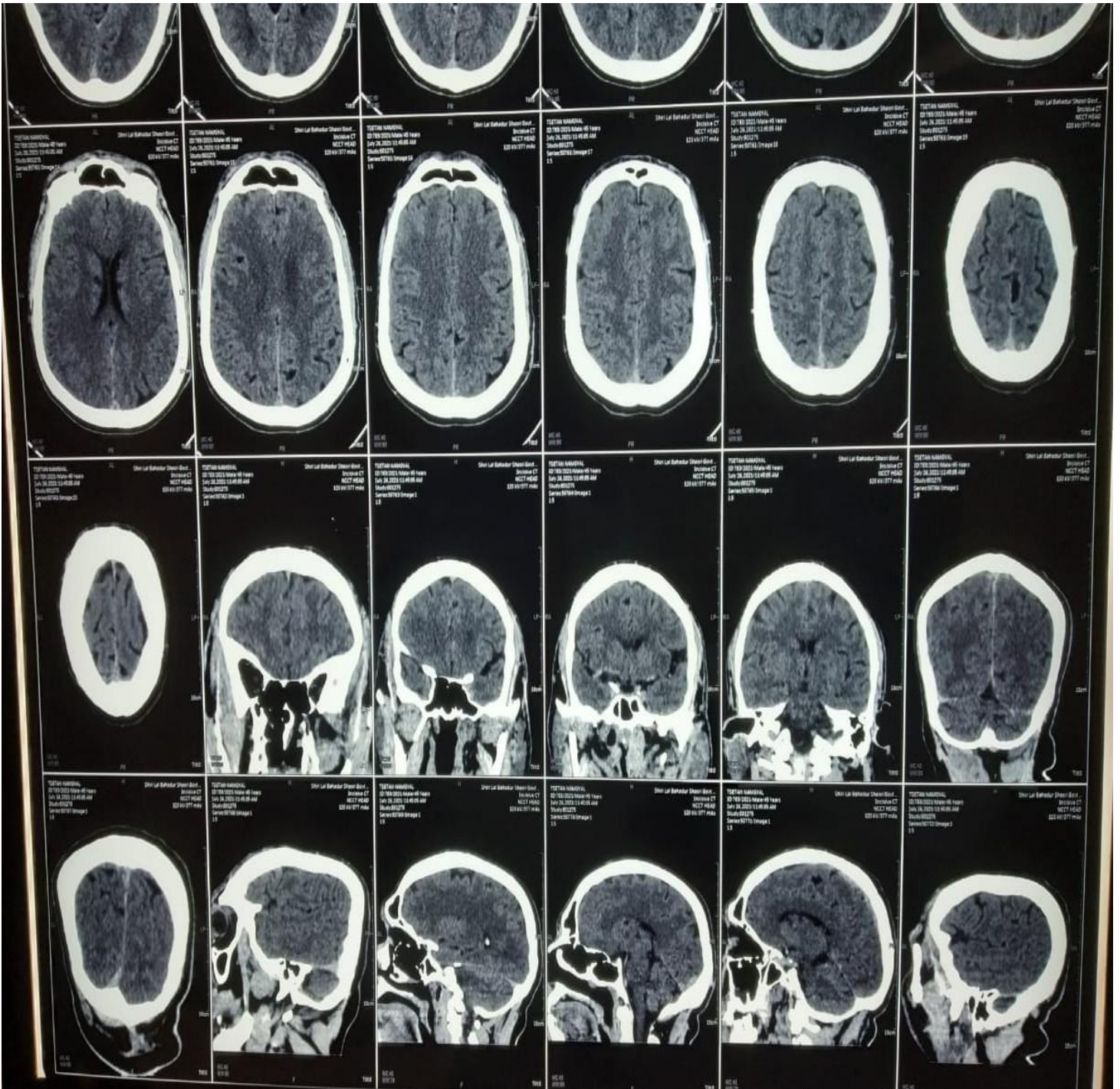


Figure 2

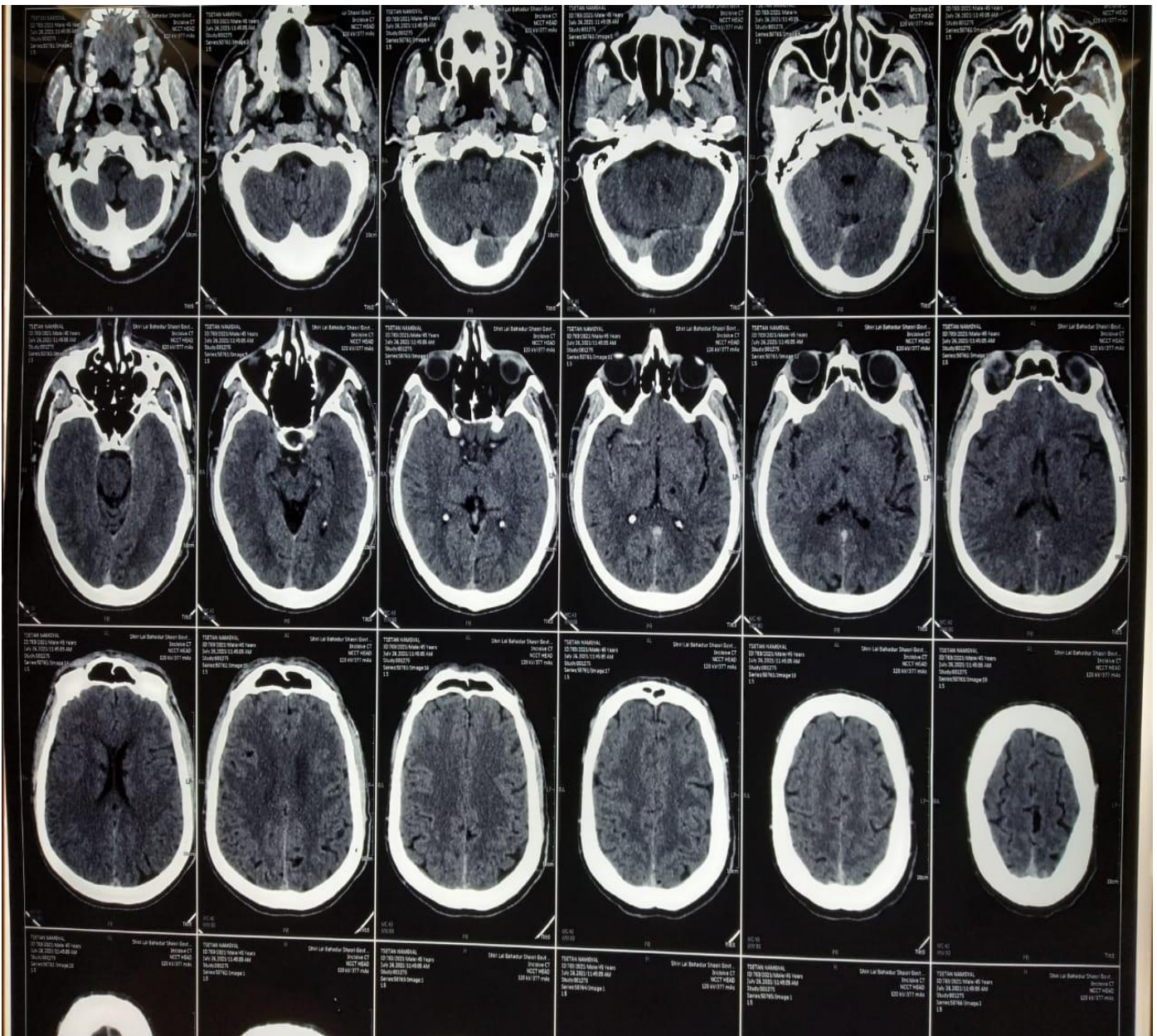


Figure 2a

He was stated on aspirin, statins and anti-hypertensives by the medical specialists. Alternate eye patching was carried out which relieved his diplopia. Exercises to improve facial weakness were advised. He was also started on ocular lubricants to prevent any corneal damage plus taping of the right lid at bedtime.

Discussion

One-and-a-half syndrome is characterized by ipsilateral conjugate horizontal gaze palsy, known as the “one” and ipsilateral internuclear ophthalmoplegia known as the “half”. The only remaining ocular movement is abduction of the contralateral eye. Eight-and-a-half syndrome is a rare pontine disorder made up of one and a half syndrome plus ipsilateral lower motor neuron like facial palsy [1]. The affected nuclei may include either combination of the ipsilateral VIIth and VIth nerve nucleus and the ipsilateral medial longitudinal fasciculus or combination of ipsilateral VIIth and ipsilateral paramedian pontine

reticular formation along with the ipsilateral medial longitudinal fasciculus [2].

The rare condition is often caused by an infarction, haemorrhage, demyelination, gliomas, and cystic lesions in the dorsal tegmentum of the caudal pons [3]. Prognosis depends on the size of the infarct and the ability of the affected area to recover. Usually facial palsy improves first followed by the ocular symptoms. The treatment depends on the underlying etiology, in addition to neurorehabilitation [4]. The components of Millard Gubler Syndrome are ipsilateral facial and abducens nerve paralysis and hemiplegia or hemiparesis of the contralateral limbs [5].

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