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Eight-and-Half Syndrome- A Quick Surprising Change in the Manifestation

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ABSTRACT

Introduction: The "one-and-a-half syndrome" is an eye movement disorder characterized by a unilateral gaze palsy and an ipsilateral internuclear ophthalmoplegia. When it is associated with seventh nerve palsy(Bell's palsy) on the same side it is called Eight and half syndrome.

Case Report: A 72year old female patient presented to the medicine OPD with complaints of slurring of speech since 3 days along with deviation of angle of mouth and involuntary movements of left upper and lower limb. Ophthalmology reference was given in view restricted extraocular movements On ocular examination (bedside) Visual Acuity in both eyes was counting fingers >3mts. Extraocular movements showed restriction of movements. Anterior segment examination showed lagophthalmos of the left upper eyelid, pupils bilateral sluggishly reactive to light ,both eyes pseudophakia, right end gaze nystagmus. Fundus examination showed normal disc both eyes with Cup Disc Ratio(CDR) 0.4,with both eyes macular scar, dot-blot haemorrhages along with hard exudates were present in all quadrants, vessels showed arteriolar attenuation with A-V crossing changes. CT brain done showed space occupying lesion (3x3cm) in the left cerebellar hemisphere with surrounding edema compressing the 3rd & 4th ventricles with tonsillar herniation. Patient was started on Inj. Mannitol 100ml and Inj.Dexamethasone 4mg following which there was improvement in the ocular findings on day 2.

Conclusion: The purpose of our presentation of this case is to highlight the alteration in the ophthalmic-neurological manifestation of presentation in a case pertaining to central nervous system with start of medication.

Keywords: One-and-a-half syndrome, Gaze palsy, Internuclear ophthalmoplegia

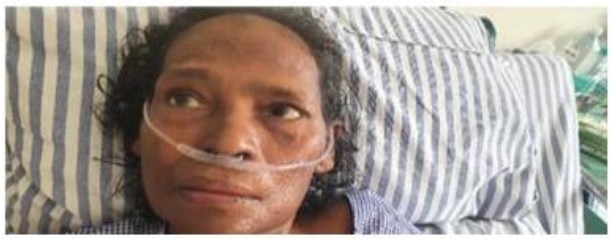
INTRODUCTION

The "one-and-a-half syndrome" is an eye movement disorder characterized by a unilateral gaze palsy and an ipsilateral internuclear ophthalmoplegia. The syndrome is caused by a lesion in the lower part of the dorsal pontine tegmentum ipsilateral to the gaze palsy and the ipsilateral internuclear ophthalmoplegia. The most common causes of the one-and-a-half syndrome are brain stem infarction, multiple sclerosis and miscellaneous causes such as gliomas and ArterioVenous Malformations. [1] Clinical presentation includes diplopia, blurred vision and oscillopsia. Neurological examination may reveal different patterns of nystagmus including gazed-evoked, upbeat, horizontal and rotatory ipsilateral gaze nystagmus.

CASE REPORT

A 72year old female patient presented to the Medicine OPD with complaints of slurring of speech since 3 days along with deviation of angle of mouth and involuntary movements of left upper, lower limb since 3days. Patient is a k/c/o Hypertension, Type 2 Diabetes Mellitus, Ischemic Heart Disease, Chronic KideneyDisease since 10years on medications. Ophthalmology reference was given in view restricted extraocular movements .On ocular examination (bedside) Visual Acuity in both eyes was counting fingers >3mts .Extraocular movements showed restriction of the right inferior oblique (-3) ,right medial rectus (-4) , right superior oblique (-3), left superior rectus (-3), left lateral rectus (-4), left inferior rectus (-3), left medial rectus (-2) as shown in Figure1. Anterior segment examination showed lagophthalmos of the left upper eyelid, pupils bilateral were sluggishly reactive to light , both eyes pseudophakis, right end gaze nystagmus was noted . Patient hadan associated left Lower Motor Neuron(LMN) facial palsy. Fundus examination showed normal disc both eyes with CDR 0.4,both eyes macular scar was present, dot-blot haemorrhages along with hard exudates were present in all quadrants , vessels showed arteriolar attenuation with A-V crossing changes . CT brain was done which showed space occupying lesion (3x3cm) in the left cerebellar hemisphere with surrounding edema compressing the 3rd & 4th ventricles with tonsillar herniation.The patient was diagnosed as (BE) Pseudophakia , (BE) Mixed retinopathy (Grade II HTN retinopathy with severe NPDR with ? CSME) , (LE) Eight and half syndrome [?Left Internuclear ophthalmoplegia (One and Half syndrome) with left LMN facial palsy with poor bell's phenomenon].

Patient was started on Inj. Mannitol 100ml and Inj.Dexamethasone 4mg following which there was improvement in the ocular findings on day 2.



Facial Palsy

Lagophthalmos of left upper eyelid

DISCUSSION

Eight-and -a-Half syndrome is the combination of ipsilateral lower motor neuron 6th and 7th nerve palsy, inter-nuclear ophthalmoplegia and ipsilateral gaze paralysis. This patient had ocular motility findings suggestive of "one-and-a-half syndrome " along with left LMN facial palsy. These findings are consistent with the diagnosis of Eight and half syndrome.There was a change in the ocular findings on day 2 probably due to the reduction in the edema after starting iv mannitol and i.v dexamethasone. We present this case to highlight the fact that interpretation of eye movement abnormalities in brainstem lesions can be difficult yet fascinating.

CONCLUSION

The purpose of our presentation of this case is to highlight the alteration in the ophthalmic- neurological manifestation of presentation in a case pertaining to central nervous system with start of medication. Hence complete imaging of the CNS is necessary in any patient presenting with restricted ocular movements not to miss an important diagnosis.

REFERENCES

1. Wolin MJ, Trent RG, Lavin PJ, Cornblat WT. Oculopalatal myoclonus after the one-and-a-half syndrome with facial nerve palsy. Ophthalmology. 1996;103(1):177-180.
2. Wall M, Wray SH. The one-and-a-half syndrome-A unilateral disorder of the pontine tegmentum: A study of 20 cases and review of the literature. Neurology. 1983;33(8):971
3. Bogousslavsky J, Miklossy J, Regli F, Deruaz JP, Despland PA. One-and-a-half syndrome in ischaemic locked-in state: a clinico-pathological study. Journal of Neurology, Neurosurgery & Psychiatry. 1984;47(9):927-935.
4. Sarwal A, Garewal M, Sahota S, Sivaraman M. Eight-and-a-Half Syndrome. Journal of Neuroimaging. 2009;19(3):288-290.
5. Kakar P, Brown Z, Banerjee S. Eight-and-ahalf syndrome: an unusual presentation of brainstem infarction. OJM: An international journal of Medicine. 2013;106(3):273-276.