ORIGINAL RESEARCH PAPER

Internal Medicine

A CASE OF ONE AND A HALF SYNDROME DUE TO POSTERIOR CIRCULATION STROKE IN AN ADULT PATIENT.

KEY WORDS:

Dr. Priyank M. Patel 3rd Year Resident, Department of Internal Medicine, V.S. Hospital, Ahmedabad.

Dr. Vivek C. Patel* 3rd Year Resident, Department of Internal Medicine, V.S. Hospital, Ahmedabad. *Corresponding Author

Dr. Nirav Z. Chovatiya 3rd Year Resident, Department of Internal Medicine, V.S. Hospital, Ahmedabad.

Introduction:
One and a half syndrome is a gaze abnormality characterized by conjugate horizontal gaze palsy in one direction plus and internuclear ophthalmoplegia in the other. The syndrome is usually caused by a single unilateral lesion of parapontine reticular formation or the abducens nucleus on one side causing conjugate gaze palsy to the side of the lesion with interruption of inter nuclear fibres of the ipsilateral medial longitudinal fasciculus after it has crossed the midline from its side of origin in the contralateral abducens nucleus causing failure of adduction of the ipsilateral eye.

One and a half syndrome is most often caused by multiple sclerosis, brain stem stroke, brain stem tumors and arterio-venous malformations.

Case Report:
Mr. Imam Abdul Aziz Shaikh, a 60 year old male patient was admitted on 13-11-17 in the ER of VSGH Ahmedabad with complaints of double vision on looking to the right side with inability to move eyes on the left side and two episodes of vomiting since two days.

The Patient presented with BP-200/100 mm of Hg, PR- 80/min, RR-14/min with saturation- 98% on room air, RBS 124 mg/dl. The Patient was given injectable labetalol 4 cc(5 mg/ml) was started on olmesartan 20 mg 1 OD.

Physical examination of the patient was normal with normal findings in cardio vascular, respiratory and gastrointestinal systems. Patient was conscious, oriented to time place and person. Higher mental functions were normal. Power and tone in all the four limbs were normal with normal deep tendon and superficial reflexes. Pupils were bilaterally normal and reacting to light. Bilateral plantars showed flexor response. Bilateral cranial nerve examination was normal.

Eye Examination:

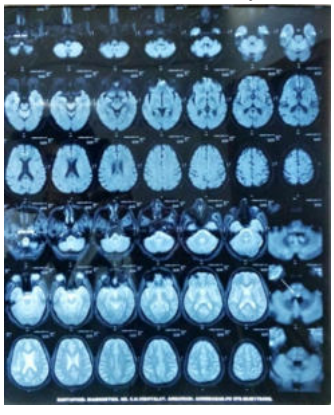
Movement	Right	Left
Abduction	+ve with nystagmus	-ve
Adduction	-ve	-ve
Superior gaze	+ve	+ve
Inferior gaze	+ve	+ve

Convergence was preserved.

Investigations:
Biochemical investigation revealed,

Test	Value	Normal Value
Hb	15.3 gm/dl	13 - 16
TC	5.73 X 103 / uL	4 - 10
Platelet	212 X 103 / uL	1.55 – 4.5
Urea	13 mg/dl	15 – 45
Creatinine	0.89 mg/dl	0.60 – 1.50
K+	3.4 mmol/ltr	3.5 – 1.5
Na+	137 mmol/ltr	135 -145
Bilirubin(T)	0.75 mg/dl	0.20 – 1.20
Alkaline Phosphatase	77 U/L	40 – 150
ALT	20 U/L	0 -55
RBS	124 mg/dl	70 – 140
Cholesterol	182 mg/dl	150 – 200
HDL	45 mg/dl	40 - 100
TG	78 mg/dl	50-150
VLDL	16 mg/dl	10-30
LDL	121 mg/dl	65-100
HBA1-C	5.9%	4-6%

MRI Brain with angiography revealed tiny acute infarcts involving left posterior paramedian pons and right occipital lobe with findings suggestive of posterior circulation stroke. Age related cerebral and cerebellar atrophy with old lacunar infarcts in periventricular region bilaterally. Faint flow related enhancement of intracranial part of right vertebral artery S/O occlusion. 2D echo revealed LVEF-62% with normal echo study.



Treatment consisted of dual antiplatelet therapy as tab. Ecosprin(150) OD, tab. Clopidogrel (75) OD and Tab. Atorvastatin(40) OD on daily basis. After 5 days of treatment and hospital stay there was improvement in all the eye movements in all directions bilaterally with nystagmus on right sided abduction. Patient was discharged on 18-11-17.

Discussion:
Our patient presented with left horizontal gaze palsy with inability to adduct right eye with only movement possible being right abduction with nystagmus. Convergence was preserved. MRI brain angiography revealed posterior circulation stroke (Left pons + right Occipital region) and right vertebral artery occlusion. On the basis of peculiar features of eye movements and MRI findings, diagnosis of one and a half syndrome was made.

One and a half syndrome consists of conjugate lateral gaze palsy on one side plus half gaze palsy in other. Stroke is the second most common cause of one and a half syndrome followed by multiple

sclerosis. Confirmation of diagnosis was made by clinical examination and MRI findings. Patient improved with supportive therapy and dual antiplatelet therapy. In conclusion the semiological diagnosis of one and a half syndrome is comparatively simple and allows great anatomical precision.

REFERENCES:

1. www.pubmed.com//article_oneandahalfsyndrome
2. Adams & victors principles of neurology 10th edition(p.262)
3. Bradleys neurology 7th edition(p.202)
4. Harrisons Principles of intenal medicine 19th edition(p.208)