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Original Research Paper

Ophthalmology

CASE REPORT- A RARE CASE OF DIPLOPOA - RAYMONDS SYNDROME

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ABSTRACT

The sixth cranial nerve runs a long course from the brainstem to the lateral rectus muscle. Based on the location of an abnormality, other neurologic structures may be involved with the pathology related to this nerve. Sixth nerve palsy is frequently due to a benign process with full recovery within weeks, yet caution is warranted as it may portend a serious neurologic process. Hence, early diagnosis is often critical for some conditions that present with sixth nerve palsy. We report a case of sixth nerve palsy with a rare clinical presentation .The patient recovered remarkably after treating the patient with ASS corticosteroids within a few days.
This case describes the importance of early diagnosis and treatment of sixth nerve palsy .The other causes and differential diagnosis of sixth nerve palsy has been highlighted .

KEYWORDS : Raymonds syndrome , Foville syndrome , Millard gubler syndrome

CASE REPORT

A 24 year old -female patient came with complaints of headache of moderate grade over frontal region associated with giddiness.She presented with binocular diplopia which was worse on left gaze and complained on inability to move the left eye laterally.she also complained of weakness over right half of the body which was sudden in onset. On eliciting history, she had been diagnosed with rheumatic heart disease associated with mitral valve prolapse at 12 years of age. She had taken penicillin for 6 years and then discontinued the medication. She is not a known diabetic or hypertensive and gives no other relevant past history.

On external ocular examination her unaided visual acuity in both eyes was 6/6 N6.She had her face turned to the left side with left esotropia. Extraocular movement s showed restriction of abduction of the left eye . Eye movements were normal in all other directions. Anterior segment examination by slit lamp was normal with briskly acting pupil and normal fundus.Intraocular pressures were 16mmHg in both eyes.Colour vison tested by Ishihara's charts was normal.

General examination revealed normal function of all cranial nerves except Left abducent nerver. Motor system examination showed normal tone with Grade 4 power of muscles with normal tendon reflexes. Sensory system examination was normal. Cerebellar function was normal with a normal gait in walking.

A clinical diagnosis of Left sixth nerve palsy with right hemiparesis was made.

We investigated the patient with an MRI brain and orbit which revealed two well defined T2/flair hyperintense and T1 isointense lesions noted in the lower pons (-6.6*4.6 mm and -4.4*5.1 mm).We subsequently treated the patient with intravenous methyl prednisolone and Injection clexane 0.6mg sc and oral ecosprin 150mg.

Based on the above findings a final diagnosis of acute infra nuclear(fascicular) sixth cranial nerve palsy with contralateral hemiparesis with possible etiology of CVA of rheumatic origin was made. These findings are consistent with Raymonds syndrome.The patient showed improvement in extra ocular movements within few days after treating with corticosteroids and anticoagulants suggesting that the lesion could be Vascular(pons),

DISCUSSION

The sixth cranial nerve runs a long course from the brainstem to the lateral rectus muscle. Based on the location of an abnormality, other neurologic structures may be involved with the pathology related to this nerve. Sixth nerve palsy is frequently due to a benign process with full recovery within weeks, yet caution is warranted as it may portend a serious neurologic process. Hence, early diagnosis is often critical for some conditions that present with sixth nerve palsy. This article has a rare presentation of sixth nerve palsy which we diagnosed as raymonds syndrome and after diagnosing and treating the patient ,there was marked improvement in the patient.[1]

Dysfunction of the sixth cranial (abducens) nerve can result from lesions occurring anywhere along its course between the sixth nerve nucleus in the dorsal pons and the lateral rectus muscle within the orbit. The sixth nerve has the longest subarachnoid course of all cranial nerves and innervates the ipsilateral lateral rectus (LR) which abducts the eye.

The long and tortuous course of the nerve is divided into five sections. Lesions within each section are frequently recognizable by involvement of contiguous structures. By understanding this anatomical schema, the clinician can recall the relevant clinical signs and symptoms, and also the many possible etiologies. Early diagnosis is often critical in some conditions that present with sixth nerve palsy. Table 1, summarizes seven retrospective studies available in the literature.[2-7]

The sixth cranial nerve runs a long course from the brainstem to the lateral rectus muscle. Based on the location of an abnormality, other neurologic structures may be involved with the pathology related to this nerve. Sixth nerve palsy is frequently due to a benign process with full recovery within weeks, yet caution is warranted as it may portend a serious neurologic process. Hence, early diagnosis is often critical for some conditions that present with sixth nerve palsy. This article has a rare presentation of sixth nerve palsy which we diagnosed as raymonds syndrome and after diagnosing and treating the patient ,there was marked improvement in the patient.1

Table 1

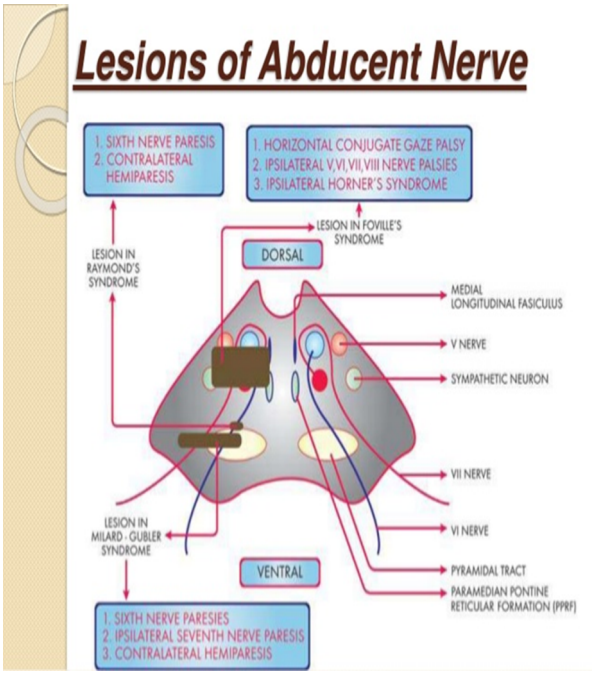
Summary of six retrospective studies on patients with sixth nerve paresis

	Etiologies of acquired VI nerve palsy						
	Schrader1 (1960) (isolated)	Rucker[2] (1966)	Johnston[3] (1968)	Robertson[4] (1970) (children)	Rush[5] (1981)	Potel[6] (2004)	Bagheri[7] (2010)
Total number of patients	104	607	158	133	419	137	33
Etiologies (%)							
Neoplasm	7	33	13	39	15	5	2
Trauma	3	12	32	20	17	12	18
Aneurysm	0	3	1	3	3	2	0
Ischemic	36	8	16	0	18	16	1
Miscellaneous*	30	24	30	29	18	19	6
Undetermined**	24	20	8	9	29	26	6

*6% to 30% attributed to a miscellaneous group of causes that includes leukemia, migraine, pseudotumor cerebri, multiple sclerosis; the miscellaneous group of etiologies reflects the poor localizing value of sixth nerve paresis.
**6% to 29%, etiology undetermined, reflecting vulnerability of the nerve to conditions which are transient, benign and unrecognizable.

The six conditions that may imitate isolated lateral rectus weakness:8,9,10

- Thyroid eye diseases
- Myasthenia gravis
- Duane's syndrome
- Spasm of the near reflex
- Delayed break in fusion
- Old blowout fracture of the orbit



Conclusion:

After taking a short digression through the internal anatomy of the pons and the brainstem syndromes (6th nerve palsy)

1- Raymond's syndrome:

Sixth nerve paresis
Contralateral hemiparesis

2- Millard-Gubler syndrome:

Sixth nerve paresis
Ipsilateral seventh nerve paresis
Contralateral hemiparesis

3- Foville's syndrome:

Sixth nerve paresis
Horizontal conjugate gaze palsy
Ipsilateral V, VII, VIII cranial nerve palsy
Ipsilateral Horner's syndrome

we concluded this case to be raymonds syndrome.[11]

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