Case Reports
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Cluster headache associated with a sixth nerve palsy

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Introduction

Cluster headache is a rare form of primary headache characterized by stereotyped repeated short lasting attacks of severe unilateral headache and associated autonomic symptoms. Internal external ocular movement disorders are commonly described in several forms of migraine. Although internal ophthalmoplegia or Horner's syndrome have been repeatedly reported in cluster headache, external ocular movement disorders represent an exceptional finding.

Case report

A 62 year old gentleman presented with acute onset diplopia which worsens when looking at left for five days duration. It was associated with left sided sever episodic frontal headache for the same duration. Headache was appearing in short lasting episodes (20-30min) several times a day associated with tearing and nasal congestion. Patient did not have fever, photophobia or altered level of consciousness. He had a significant past medical history of episodic short lasting severe intolerable headache suggestive of cluster headache for the past 15 years. But he had never developed diplopia previously. On examination he was found to have isolated sixth nerve palsy without other cranial nerves and limbs involvement. Fundal examination was normal. Patient did not have neck stiffness and temporal pulses were present. His investigations revealed WBC 6.2 (N -64), HGB- 12.8, PLT – 258000, ESR – 24mm/hr, FBS – 92mg/dl. Patient underwent Magnetic Resonant Imaging of the brain and brainstem which was normal. His lumbar puncture did not reveal any cells with normal sugar and proteins. He was treated with O2, oral prednisolone 60mg/dl, verapamil and analgesics for one week and patient has improved dramatically and sixth nerve palsy disappeared by the fifth day of the drugs. He was discharged on oral verapamil 40mg tds.

Discussion

The underlying pathophysiology of CH is incompletely understood. The periodicity of the attacks suggests the involvement of a biologic clock within the hypothalamus (which controls circadian rhythms), with central disinhibition of the nociceptive and autonomic pathways—specifically, the trigeminal nociceptive pathways. Positron emission tomography (PET) and voxel-based morphometry have identified the posterior hypothalamic gray matter as the key area for the basic defect in cluster headache. Although autonomic symptoms are frequently associated with Cluster Headache nerve palsies are extremely rare and rarely reported. Patient was started on prednisolone initially till actions of other drugs take place. Patient showed a good response to both prednisolone and verapamil. Headache disappeared within two days and sixth nerve palsy improved on the fifth the day of therapy.

Patient was investigated for a secondary cause of sixth nerve palsy including vasculitic and diabetic screening which was negative. Therefore sixth nerve palsy was attributed to the primary headache disorder "cluster headache".

Conclusion

Although autonomic symptoms are frequently associated with cluster headache external ophthalmoplegia can rarely get associated with cluster headache.

References

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