

# DIAGNOSTIC YIELD OF NEUROIMAGING IN OCULAR MOTOR CRANIAL NERVE PALSIES

## ABSTRACT

**Purpose:** This study was designed to evaluate the diagnostic yield of neuroimaging in ocular motor cranial nerve palsies at our institute. To the best of our knowledge, only 4 reports are available to investigate the diagnostic yield of imaging in ocular motor cranial nerve palsies as a whole in India. The main objectives were to describe and analyse the various clinical presentation, evaluation and diagnostic modalities and to evaluate the role of neuroimaging in determining the etiological diagnosis.

**Methods:** A prospective study was done at Neuro ophthalmology clinic, Aravind Eye Hospital, Madurai, over a period of twelve months, from August 2014 to July 2015.

**Results:** Hundred and ninety six patients of ocular motor cranial nerve palsies were examined. 103 (52.5%) were males and 93 (47.5%) were females. The mean age was 46.94 years. Majority of the cases had unilateral involvement (93.9%) and the most common chief complaint was double vision (66.3%). The sixth cranial nerve palsy (42.3%) was most commonly seen followed by third cranial nerve palsy (38.8%), the fourth nerve palsy (8.7%) and combined cranial nerve palsy (7.2%). All the patients in our study underwent

neuroimaging. 55 patients (28.1%) had CT done and 141 patients (71.9%) had MRI done. Most common cause of nerve palsies in our study was due to inflammatory cause (39.79%) followed by ischaemic cause (18.36%), vascular cause (7.14%) and neoplasm (2.55%). The etiology was undetermined in 28.06%. Combined nerve palsies accounted for 7.2%.

**Conclusion:** On the basis of our study, patients over 50 years of age, with vasculopathic risk factors, can be treated conservatively; but however these patients in our opinion required to be monitored weekly and based on the recovery, the next decision can be taken. Worsening, non improvement for a period of 3 months or greater and progressive involvement of other cranial nerves need urgent neuroimaging. Also, in patients more than 50 years of age, isolated cranial nerve palsy in the absence of vasculopathic risk factors requires neuroimaging. In patients below 50 years presenting with non traumatic acute isolated nerve palsy or multiple cranial nerve palsies, we believe neuroimaging on initial presentation.

**Keywords:** diagnostic yield, neuroimaging, ocular motor cranial nerve palsies.