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### RESEARCH ARTICLE

#### EYES THAT LOOK DOWN AND OUT; A CASE SERIES ON ISOLATED THIRD NERVE PALSY.

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#### Abstract

**Introduction:** Isolated oculomotor nerve palsy (ONP) is quite common in general practice. Various causes of ONP have been described in several studies, for instance ischemia, compression from aneurysm or tumor, and trauma. Ischemia was the most common etiology with spontaneous recovery, and it was presumed based on some helpful clinical clues before imaging became available.

**Materials & Methods:** This study comprises of 10 patients with oculomotor nerve palsy who attended regional eye hospital, Kurnool, during my study period of 6 months from 01/02/2022 to 31/07/2022. Patients presented to OPD with complaints of diplopia and drooping of upper eyelid. Patients subjected to VA for distant and near vision, slit-lamp examination, pupillary reactions, extraocular motility, fundus examination, diplopia charting for distant and near vision, hess charting, visual field testing and IOP. Blood pressure, blood sugar profile, lipid profiles were monitored and referred to concerned departments. They were advised for CT and MRI scans to know the etiological cause.

**Results:** Out of 10 patients, DM - 3, CVA due to Hypertension - 1, ocular tuberculosis - 1, mucormycosis - 1, pseudotumor - 1, trauma - 1, unknown etiology - 2.

**Conclusion:** Patients with diabetes has a good recovery rate. We recommend that the patients with oculomotor nerve palsy be carefully examined clinically in a multidisciplinary approach for early diagnosis and treatment.

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#### Introduction:-

Ocular motor nerve palsies (OMNPs) are commonly encountered in clinical practice and usually give us an insight into the underlying local, regional, or general diseases. They may be unilateral or bilateral, isolated, or combined type of involvement, and may be obvious or subclinical. To find out the etiology, it is important to carry out a careful clinical examination with supportive complementary investigations. This approach is known as "anamnesis."<sup>[1]</sup> To increase the chance of identifying the causes of OMNPs, a close collaboration between different specialties, that is, a multidisciplinary approach has been recommended. This short paper presents the result of the clinical and etiological aspects of OMNPs after using such a collaborative approach. Isolated oculomotor nerve

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palsy (ONP) is quite common in general practice. Various causes of ONP have been described in several studies, for instance ischemia, compression from aneurysm or tumor, and trauma. Ischemia was the most common etiology with spontaneous recovery, and it was presumed based on some helpful clinical clues before imaging became available.

### Materials And Methods:-

A prospective case study on 10 patients with isolated 3<sup>rd</sup> nerve palsy was done in 6 months duration of my duty period from 01/02/2022 to 31/07/2022, in the department of ophthalmology, regional eye hospital, Kurnool medical college, kurnool. Patients presented to OPD with chief complaints of double vision and drooping of upper eyelid. Each patient underwent a complete ophthalmologic evaluation as a part of the detailed anamnesis. The anamnesis also focused on risk factors in past and/or current ocular and general medical history and current or past medications. The thorough ocular examination included the following.

Visual acuity was measured using conventional methods. Tests for ocular motility and ocular deviation were done in all nine directions of gaze and evidence of strabismus was assessed with cover-uncover test. The upper lids were evaluated for ptosis by measuring the distance between the upper and lower margins using a transparent graduated rule. Ptosis was further classified into mild (4–8 mm), moderate (2–4 mm), and complete.

Furthermore, patients underwent neurological, cardiovascular, endocrinologist, and otorhinolaryngologic examinations and ordered for computerized tomography (CT) scan imaging study wherever necessary. Thorough history regarding systemic vascular diseases, hyperlipidemia, and risk factors like smoking, alcoholism etc., were taken. Slit-lamp examination done for each patient for anterior segment. Pupillary reactions were recorded. Extraocular motility, diplopia charting for distant and near vision along with Hess screening. IOP was recorded. Blood pressure was recorded. Blood sugar levels, lipid profiles were monitored and patients were referred to concerned departments.

### Results:-

Among 10 cases, 8 were males and 2 were females.

**Table No1:-** Symptoms, as reported by the patients at presentation, were as follows.

SYMPTOM	NO. OF CASES	Percentage
DIPLOPIA	4	40%
DROOPING OF UPPER EYELID	6	60%
DEFECTIVE VISION	4	40%
HEADACHE	2	20%
PAIN	2	20%

**Table No2:-** Laterality at presentation is as follows.

AFFECTED EYE	NO OF CASES	TOTAL
RIGHT	06	60%
LEFT	04	40%
BOTH	0	0



**Figure No 1:-** showing isolated 3<sup>rd</sup> nerve palsy in a case of diabetes mellitus.

**Table No3:-** Pupil involvement is as follows.

Pupil	Number of cases
Without involvement	4
With involvement	6

**Table No4:-** Etiological patterns are as follows.

AETIOLOGY	NO OF CASES
SYSTEMIC VASCULAR CAUSES	DIABETES MELLITUS – 3 HYPERTENSION - 1
INFECTIVE CAUSES	TUBERCULAR MENINGITIS – 1 CEREBRAL MUCORMYCOSIS - 1
INFLAMMATORY	ORBITAL PSEUDOTUMOR - 1
TRAUMA	SUBDURAL HEMATOMA - 1
UNKNOWN ETIOLOGY	02

Cases with complete third nerve palsy showed crossed diplopia.

### Discussion:-

Ocular Cranial nerve palsies are always a diagnostic and therapeutic dilemma to the ophthalmologists. Ptosis and diplopia were the most common presentations. All patients with mild ptosis were not aware of the abnormality. Most cases were due to vascular causes as shown in table no 4, which cannot be easily recognizable on imaging. 80% of the cases were males who are likely to be more prone for smoking, alcoholism, hyperlipidemia and cardiovascular diseases. 40% of cases are recovered completely by effective management of systemic diseases like hypertension, diabetes, hyperlipidemia and some treated with physiotherapy. Steroids and NSAIDs are given for patients with inflammatory and idiopathic causes and were recovered within 6 months. The remaining cases were partially recovered and needed special treatment like surgical correction and prescription of prisms to avoid diplopia.

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**Conflict Of Interest:**

None.

**References:-**

1. Choi KD,et al,(2019). Acquired Ocular Motor Nerve Palsy in Neurology Clinics: A Prospective Multicenter Study. J Clin Neurol. 2019 Apr;15(2):221-227. doi: 10.3988/jcn.2019.15.2.221. PMID: 30938109; PMCID: PMC6444141.
2. HörnerR,et al,(2022). The spectrum and differential diagnosis of acquired ocular motor nerve palsies: a clinical study of 502 patients. J Neurol. 2022 Apr;269(4):2140-2148. doi: 10.1007/s00415-021-10761-w. Epub 2021 Sep 19. PMID: 34537871; PMCID: PMC8940813.
3. Kerty E, Bakke SJ(2001). Neurological imaging of the 3rd 4th and 6th cranial nerves. Tidssk Nor Lægeforen2001;121:1366-8.
4. Kung NH, Van StavernGP(2015). Isolated Ocular Motor Nerve Palsies. Semin Neurol. 2015 Oct;35(5):539-48. doi: 10.1055/s-0035-1563568. Epub 2015 Oct 6. PMID: 26444399.
5. Park KA,et al,(2019). Acquired onset of third, fourth, and sixth cranial nerve palsies in children and adolescents. Eye (Lond). 2019 Jun;33(6):965-973. doi: 10.1038/s41433-019-0353-y. Epub 2019 Feb 13. PMID: 30760897; PMCID: PMC6707187.
6. TamhankarMA,et al.(2013). Isolated third, fourth, and sixth cranial nerve palsies from presumed microvascular versus other causes: a prospective study. Ophthalmology. 2013 Nov;120(11):2264-9. doi: 10.1016/j.ophtha.2013.04.009. Epub 2013 Jun 6. PMID: 23747163; PMCID: PMC3795864.