

FREQUENCY OF OPHTHALMIC PATHOLOGIES ON MRI IN PATIENTS HAVING VISUAL SYMPTOMS



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Introduction

MRI is a well-known technique for the detection of soft tissue pathologies. It has also become a major diagnostic tool in the field of ophthalmology for detection of ocular problems. It is useful in detection, as well as estimation and extent of disease process. It depicts intricate anatomy, excellent soft tissue contrast, better delineation of visual pathway and accurate evaluation of associated intracranial pathologies without exposure to ionizing radiation. Analyzing the morphology, appearances, signal intensities on various sequences, pattern and degree of contrast enhancement are key factors to characterize lesions on MRI.

Objectives

- To determine the frequency of ophthalmic pathologies on MRI in patients with inconclusive diagnosis, visiting tertiary care hospital.
- To find out association of these pathologies with age and gender.

Results

A total of 72 patients were studied, 48 (66.6%) being female and 24 (33.3%) males. In 32 (44.4%) patients, right eye was involved, while in 28 (38.8%) left eye was affected, while 12 (16.6%) patients had bilateral involvement. The level of significance was kept 95%. The p-value of optic neuritis was statically significant ie 0.05.

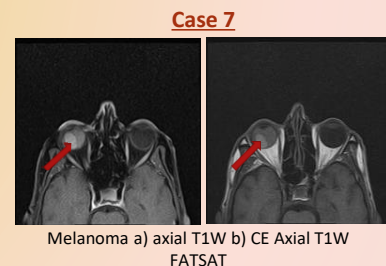
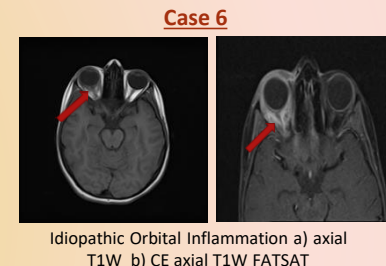
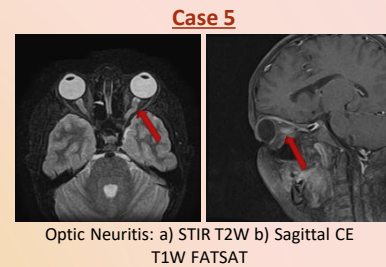
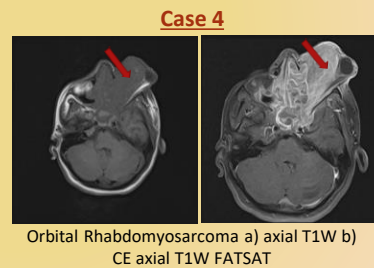
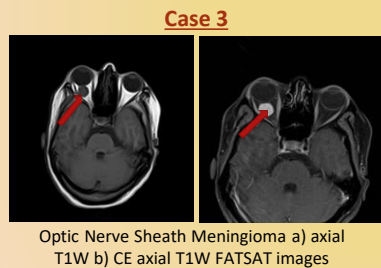
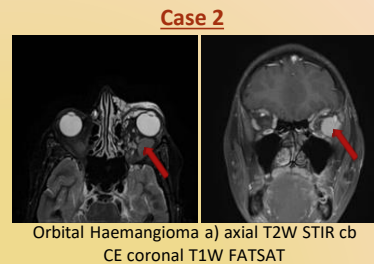
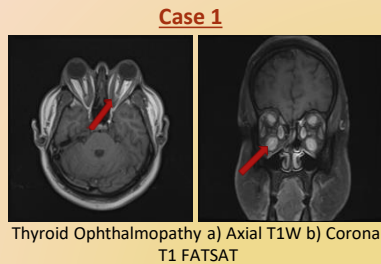
Out of a large range of pathologies observed on MRI, the optic neuritis was the most frequent pathology, followed by idiopathic orbital inflammation and thyroid ophthalmopathy. Optic neuritis was more common in females, age ranged from 31-40 years. Idiopathic orbital inflammation equally affects both genders and was most common in 41-50 years of age group, while thyroid ophthalmopathy was most commonly seen in female, aged 31-40 years.

Materials and Methods

This study was retrospective and cross-sectional. Study subjects were patients who visited for Contrast Enhanced MRI Orbit in Radiology department JPMC Karachi during July - August 2022 having complaint related to eye or orbit. MRI was carried out by 1.5 Tesla Canon-Vantage Orian machine using head coil. Standard MRI orbit protocol was followed. The data regarding gender, age and pathologies was recorded and statistically analyzed on SPSS.

Conclusion

Optic neuritis is the most common ophthalmic pathology found in our population. This study will help the ophthalmologist in promptly identifying pathologies affecting orbit and eye, to prevent permanent visual loss and in the early management of the disease.



Tests of Normality^{a,d}

| Diagnosis | Kolmogorov-Smirnov ^b | | | Shapiro-Wilk | | | |
|-----------|---------------------------------|-------|------|--------------|-------|------|-------|
| | Stat | df | Sig. | Stat | df | Sig. | |
| Age | Idiopathic orbital inflammation | 0.274 | 4 | - | 0.914 | 4 | 0.506 |
| | Endophthalmitis | 0.191 | 12 | 0.200* | 0.902 | 12 | 0.166 |
| | Melanoma | 0.260 | 2 | - | | | |
| | Optic neuritis | 0.102 | 34 | 0.200* | 0.937 | 34 | 0.050 |
| | Orbital Lymphoma | 0.204 | 6 | 0.200* | 0.917 | 6 | 0.486 |
| | Rhabdomyosarcoma | 0.260 | 2 | - | | | |
| | Thyroid ophthalmopathy | 0.214 | 10 | 0.200* | 0.883 | 10 | 0.141 |

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