

Dear Doctor,

Greetings from Micro Labs Limited. We are happy to bring you '**Ophthalmal Focus**' which contains latest and interesting news in the field of Ophthalmology.

This issue contains

- Primary and secondary hemi facial spasm : Role of neuroimaging
- Clinical Efficacy and Safety in the Correction of Moderate-To-High Corneal Astigmatism in Cataract Patients
- Infective Endocarditis: A Case Report on Retinal Artery Occlusion

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,
Medical Team,
Micro Labs Limited

Primary and secondary hemi facial spasm : Role of neuroimaging

Background: Hemifacial spasm (HFS) is a movement disorder characterized by unilateral, involuntary, and arrhythmic movements of the facial muscles of expression.

Aim: To study the role of neuroimaging and intracranial pathologies in cases of Hemifacial spasm (HFS) and also to create awareness on the importance of neuroimaging in Hemifacial spasm.

Methods: In this study all the subjects who had undergone Magnetic Resonance Imaging (MRI)/Magnetic Resonance Angiography (MRA) with 3D FIESTA (Fast Imaging Employing Steady State Acquisition) or Constructive Interference in Steady State (CISS) and time of flight angiogram (TOF) were included. Based on the clinical evaluation and neuroimaging, the subjects were divided into primary or secondary Hemifacial spasm.



Left primary hemi facial spasm

Results: 110 males (54.46%) and 92 females (45.54%) were included in this study. In 104 subjects (51.48%) the right side was involved and in 97 subjects (48.02%) the left side was found to be involved. Out of 202 patients, 183 subjects had primary HFS and 19 subjects had secondary HFS. The mean age of the primary HFS group was 52.29 ± 1.41 years and mean age of onset of the spasms was 49.26 ± 8.35 years. Neuroimaging revealed the anterior inferior cerebellar artery was the major vessel causing neurovascular conflict in primary HFS ($n = 55$). In the secondary HFS group, Cerebellopontine angle (CPA) tumours comprising meningioma ($n = 2$) and schwannoma ($n = 1$) were found to be important etiological factors.

Conclusion: This study concluded that hemi facial spasm occurs mostly in individuals in their fifties or late forties and primary HFS is more prevalent than secondary HFS. Microvascular decompression is curative therapy and neuroimaging is necessary to detect the conflicting vasculature for primary Hemifacial spasm. Secondary HFS, can lead to permanent neurological deficit if left unattended.

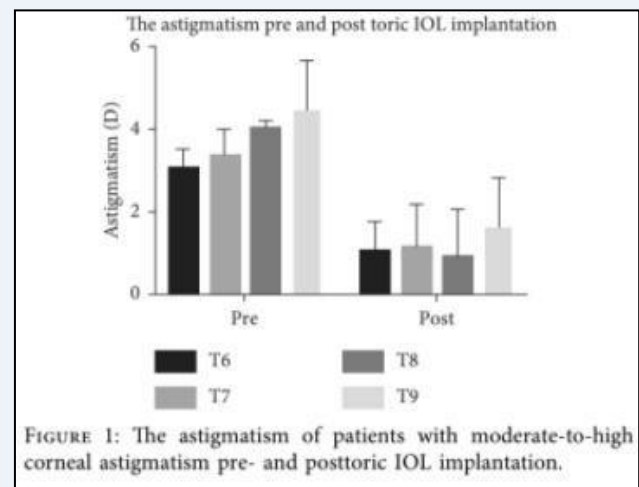
Reference: Banerjee P et al. Role of neuroimaging in cases of primary and secondary hemifacial spasm. Indian Journal of Ophthalmology.2021 Jan;18:69(2): 253.

Clinical Efficacy and Safety in the Correction of Moderate-To-High Corneal Astigmatism in Cataract Patients

Objective: to investigate the long-term efficacy and rotational stability of toric intraocular lenses (IOLs) implanted for the correction of moderate-to-high corneal astigmatism.

Methods: All the subjects included in this study underwent Phacoemulsification with toric IOL implantation. Before and one year after surgery, the uncorrected visual acuity (UCVA) and best corrected visual acuity (BCVA) were recorded. Statistical analysis of preoperative corneal astigmatism, postoperative residual astigmatism, aberrations, IOL rotation, and related factors was performed. patients were subdivided into groups according to the IOL model implanted as follows: the T6 group, T7 group, T8 group, and T9 group.

Results: 57 patients underwent scheduled examinations. All the subjects' visual acuity was significantly improved after the implantation of toric IOLs compared with that before surgery. Statistically significant reduction in astigmatism after toric IOL implantation was observed. The postoperative astigmatism decreased by 65.86% in the T6 group, 66.07% in the T7 group, 77.34% in the T8 group, and 63.57% in the T9 group. Postoperatively, the patients had better visual quality after the implantation of the toric IOLs.



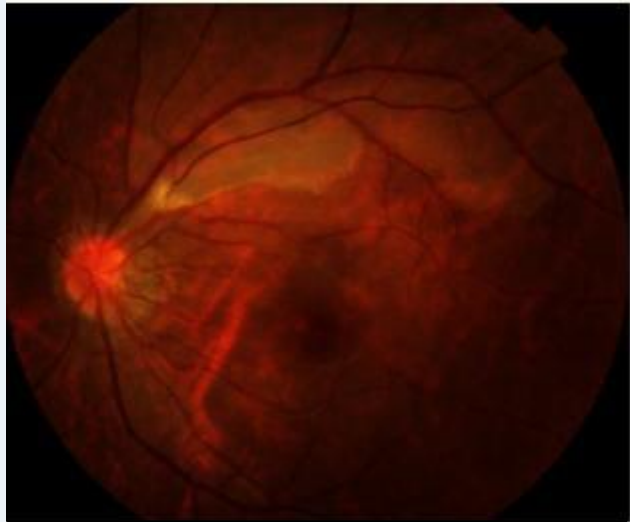
Conclusion: Toric intraocular lenses (IOLs) performed well, as they improved the uncorrected distance visual acuity, reduced corneal astigmatism, and yielded spectacle independence in cataract patients with moderate-to-high astigmatism while presenting potentially good rotational stability and predictability. These lenses are safe and effective for the long-term correction of preoperative moderate-to-high corneal astigmatism.

Reference: Qiu X et al. Toric Intraocular Lens Implantation in the Correction of Moderate-To-High Corneal Astigmatism in Cataract Patients: Clinical Efficacy and Safety. Journal of Ophthalmology. 2021 Jan; 20:2021.

Infective Endocarditis: A Case Report on Retinal Artery Occlusion

A 26-year-old female presented with sudden painless decrease in vision in the lower right quadrant of her left eye after awakening from her nap. She denied symptoms of headache, fever, recreational drug abuse, and any other medical history. Examination of the affected eye revealed a vision of 20/20. Anterior segment examination was unremarkable in both eyes. Dilated fundus exam of the left eye showed a region of retinal edema along the supertemporal arcade extending just above the macula. Loss of inferior visual field in the left eye was observed. An optical coherence tomography revealed supertemporal inner retinal edema and visualized the intra-arterial embolus.

Transthoracic echocardiography showed moderate-to-severe aortic valve regurgitation, with thickening and sign of Vegetation. Blood cultures yielded *Streptococcus viridans*. The subject was diagnosed with infective endocarditis, and intravenous antibiotics were started. Visual symptoms diminished after medical treatment. Supertemporal retinal



Fundus photograph of the left eye demonstrated plaque and mild oedema of the supertemporal retina.

edema was resolved. Improvement in the prime inferior visual field defect of the left eye was showed by Confrontation fields. No hyper-reflectivity revealed by Optical coherence tomography line scan.

Conclusion: Branch retinal artery occlusion (BRAO) is a rare diagnosis in the population under the age of 30 years. The presence of BRAO in the young adult population should prompt the consideration of possible infective endocarditis. In spite of infective endocarditis having many different forms of presentation, a high clinical suspicion is often required to reach the diagnosis. To reduce mortality and morbidity the ophthalmological pathology can help to uncover serious underlying medical conditions.

Reference: Zheng Y, Xiong K. Branch Retinal Occlusion Secondary to Infective Endocarditis. *J Ophthalmol*. 2021; 2021: 8828876.

