Summary

Different imaging modalities of the orbit and globe help both the radiologists and ophthalmologists to accurately diagnose and manage orbital lesions and evaluate the treatment method (medical or surgical) as well as follow-up.

But doctors should think well before choosing the suitable imaging modality for each lesion according to the symptoms, sings and clinical presentation. Valuable history, reliable examination and non-invasive investigations should be done first to localize the site and nature of the lesion thus help choosing the suitable imaging type and decrease the differential diagnosis limit to reach the accurate diagnosis. Imaging methods should not be ordered in haphazard manner and the doctor must be aware with the benefits as well as drawbacks of such techniques.

Both CT and MRI have a complementary role in evaluation of many orbital lesions. In developmental (congenital) orbital lesions, MRI is more precise to detect any associated congenital anomalies. In traumatic lesions, CT is the first imaging modality to detect the extent of the trauma, fractures and any foreign bodies. Moreover it is safer than MRI when the nature of the foreign body is not known.

MR imaging is superior to CT in many aspects as for orbito-cranial junction and lesions with intracranial extension. It provides better soft tissue contrast resolution; especially in the orbital apex and provides more soft tissue detail. In inflammatory lesions MRI is superior to CT in the resolution of soft tissue pathology and the extension of the lesion.

In neoplastic lesions MRI is superior to CT. Although MRI most readily shows the soft tissue tumor characteristics of Optic nerve and peripheral nerve tumors, a CT scan better displays any associated calcifications and bony hyperostosis.

Advanced MR techniques as diffusion- weighted MRI, have the main role in diagnosis and early detection of optic neuritis, orbital masses and associated brain lesions as multiple sclerosis.

Despite the very important role of CT and MRI in diagnosis of any orbital lesions there is a wide range of differential diagnosis and complementary histopathological evaluation is needed especially in neoplastic and chronic inflammatory conditions.

SO the final analysis of any orbit lesion will be based on integration and correlation of knowledge of anatomy, clinical presentation, pathophysiology and imaging modalities that leads to the rational management**.**