Summary

Ultrasound biomicroscopy (UBM) is a new imaging technology that uses high frequency ultrasound which allows detailed observation of the anterior portion of the globe in microscopic resolution.

Ultrasound biomicroscopy has a 50 MHz transducer. This allows resolution of structures up to 60 micrometers with a depth of penetration of approximately 4 mm. It is independent on the clarity of the optical media. It allows for the first time, a non-invasive demonstration of the structures of the anterior segment and their relationship to each other.

The patient is usually examined in supine position. We can get radial sections and transverse sections of the globe by the use of the high frequency ultrasound probe.

Ultrasound biomicroscopy (UBM) is powerful tool for obtaining precise images and measurement of anterior chamber depth, trabecular-iris angle, angle opening distances, and iris thickness. Therefore, it is especially suitable for diagnosis of various forms of angle closure glaucoma as pupillary block, Pseudophakic pupillary block, plateau iris syndrome, cystic angle closure (Iridociliary cysts), ciliochoroidal effusion, anterior synechiae and retinopathy of prematurity. pseudo exfoliation syndrome , Iridoschisis glaucoma , vitreoretinal surgery glaucoma , malignant glaucoma and zonular abnormalities.

ultrasound biomicroscopy in open angle glaucoma , Pigmentary dispersion syndrome (PDS), Sturge – Weber's syndrome glaucoma .

Serial observations at different stages of the disease can be obtained so it is useful for understanding the mechanism of glaucoma.

Ultrasound biomicroscopy can also be useful in evaluation of the effectiveness of different surgical procedures and diagnosing the cause of failure if present