INTRODUCTION

Ultrasound Biomicroscopy (UBM) is an imaging technique that uses high frequency ultrasound to produce images of the eye at near microscopic resolution. The abbreviation UBM is frequently used to refer to this method **(Palvin et al., 1990).**

The Technique was developed in Toronto, Canada by Pavlin in the labs of F. Stuart Foster **(Sherar et al., 1989).**

The term UBM was applied to this new imaging technique because of its similarities to optical of Biomicroscopy i.e. the observation of living tissue at microscopic resolution **(Palvin et al., 1990).**

A probe with a 50 MHz transducer, achieves a resolution of approximately 50 microns and has tissue penetration of 4-5 mm. Scanning is performed with the patient in the supine position under standardized room lighting conditions (under topical anesthesia in adults while in children we use sedation) using an eye cup which is inserted between the lids and filled with saline solution and it allows detailed observation of the cornea, iris, ciliary body. Anterior chamber (AC) angle, posterior chamber (PC) and peripheral sclera to demonstrate structural relationships **(Pavlin and foster, 1995).**

Structures surrounding the posterior chamber including the ciliary body, irido lenticular relationship and zonular apparatus of Zinn were previously hidden from clinical observation but now they can be imaged by the UBM and their normal anatomical relationships can be assessed. Also, the development of pathologic changes involving the anterior segment architecture can be quantitatively and qualitatively evaluated ***(Tello et al., 2000).***

Glaucoma is an optic neuropathy with characteristic appearance of optic disc and specific pattern of visual field defects that is associated frequently but not invariably with raised intra ocular pressure (IOP). Glaucoma can be classified to Congenital or Acquired. further classification into Open Angle and Angle Closure types according to the mechanism by which aqueous out flow is impaired .Glaucoma also classified to Primary or Secondary depending on the presence or absence of associated factors contributing to the pressure rise ***(Kanski, 2003*)**

In open angle glaucoma the angle is open and adult onset (rarely < 40 years) generally bilateral but not always symmetrical with incidence 1% of population more than 40 years .

In angle closure glaucoma the angle is closed and adult onset more common in female with incidence 1\1000 of population

In congenital glaucoma, maldevelopment of the angle of AC unassociated with any other major ocular anomalies , which classified to true , infantile and juvenile glaucoma .common in male than female. , and (70 %) of cases are bilateral . with incidence 1\10000 of population **.*(Kanski, 2003*)**

In cases of corneal opacity as congenital glaucoma and when gonioscopy become unfeasible the value of (UBM) arises**.(Dietlein et al ., 2000)**

It help us to assess the condition of the angle and the anterior segment and to evaluate the effectiveness of surgical treatment when it carried out . **(Palvin and Foster , 1992)**

AIM OF WORK

The aim of this essay is to study the value of UBM in detecting angle anomalies and anterior segment changes in various types of primary , secondary , congenital glaucoma and showing how it could provide solid evidence that could set the lines of definitive treatment and to assess the efficacy of surgical treatment in such cases.