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### Role of ophthalmic ultrasonography in pre-cataract surgery

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**Aim:** The study aimed to demonstrate the importance of B-scan ultrasonography as diagnostic and prognostic method before cataract surgery.

**Methods:** A cross-sectional prospective study was conducted in the Department of Medical Photography at the Al-Neelain University Eye Hospital, Khartoum, Sudan in 220 eyes of 220 adult patients (50–90 years) with senile cataract in period from January to May 2016. Diagnostic B-scan ultrasound where performed before cataract surgery after taking the history and doing basic eye examination techniques, like slit lamp examination and visual acuity test. Patients of diagnosed posterior segment lesions were excluded and those who had a previous history of ocular surgery or trauma were excluded. A Nidek Echo Scan Model US-4000 with a probe of direct contact to closed eye was used after application of the gel. Then anterior-posterior, longitudinal and transverse views of B-scan along with A-scan were taken. High gain (80 to 90 dB) and medium gain (60 to 70 dB) sensitivity were used. However, dynamic B-scan was used to enhance differential diagnosis in such cases.

**Results:** Out of 220 patients with senile cataract, more than 57% of patients had posterior segment lesions, 22.73% had asteroid hyalosis, 10% had vitreous hemorrhage, 7.27% had posterior staphyloma, and 6.36% had posterior vitreous detachment. However, retinal detachment and retinoschisis showed equal result of 4.55%, while ciliary body tumor was 1.82%.

**Conclusion:** The study revealed that ophthalmic ultrasonography is essential for the detection of hidden posterior segment lesions and likely to be performed routinely before cataract surgery. This would help in surgical planning, correct measurement of intraocular lens power that will be implanted in the eye and give a background about visual outcome post-operatively. However, the most common posterior segment lesion in old patients is asteroid hyalosis. Ciliary body tumor is the only neoplastic lesion found in old patients.

#### Notes: