with a scleral fixated capsular tension ring (right eye) and a non-sutured capsular tension ring (left eye) and primary implantation of IOL (26,0D for RE and 27,0D for LE, AcrySof IQ) in the capsular bag. In the 2nd case, the bilateral lens dislocation was treated by lensectomy with primary implantation of scleral fixation IOL (18,0D for the right eye, 24,0 D for the left eye).

Discussion: Ophthalmologists play an important role in detecting Marfan syndrome. The diagnosis and management of the many associated ocular disorders is challenging. Patients should be instructed to seek immediate ophthalmological consultation if light flashes, floaters or any sudden decrease of vision occur. Timely diagnosis and treatment of refractive problems, retinal detachment and glaucoma can prevent amblyopia and help to preserve sight in patients with this syndrome.

Conclusions: Management of ocular complications in Marfan syndrome must be multidisciplinary and include a treatment plan tailored to each individual's manifestations. Due to zonular reliability and resulting capsular instability, the correction of the aphakia with intraocular lens implantation in lens subluxation is a challenge. In some cases, subluxation can be compensated by optical correction, but this does not prevent other complications. Surgery, though difficult, provides an improved, stable visual acuity, preventing amblyopia (in children). At the moment, one of the methods of choice is extraction of subluxated lens with capsular ring placement (with or without scleral fixation) and primary implantation of the IOL in the capsular bag. Eye control is performed annually and assesses intraocular pressure, peripheral retina, the optic nerve and refractive disorders.

Keywords: Marfan syndrome, ocular manifestations, lens subluxation, surgical treatment

65. ULTRASOUND INTEGRATED NEURONAVIGATION - STANDARD TOOL FOR PLANNING AND GUIDANCE IN THE NEUROSURGERY

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Introduction: Reliable intraoperative orientation in neurosurgery is essential. Anatomical topographic landmarks, frame based and frameless neuronavigation, iUS allow the neurosurgeon to localize the lesion and surrounding structures, to aid in optimizing the approach and achieve safe maximal resection. In recent years there has been a significant improvement in the quality of ultrasound imaging. Intraoperative ultrasound provides low cost real time imaging that is simple and rapid to use.

Objectives: Ultrasound integrated neuronavigation can be used to optimize the approach and achieving safe maximal resection, thereby improving outcomes for patients with different localization and histology of brain tumors, vascular patology and spontaneous intracerebral hemorrhage.

Material and methods: Since 2007 till 2010, in the Institute of Neurology and Neurosurgery, 130 operations with application of 2D iUS have been performed. Starting from March till May 2012, 17 patients went under surgical treatment using the intraoperative ultrasound integrated neuronavigation system.

Results: We applied ultrasound neuronavigation system in 17 cases on patients with diverse pathologies, including brain tumors (craniopharyngeoma, corpus callosum glioblastoma and high grade intracerebral glioma), vascular patology (arteriovenous malformations, aneurysms), spontaneous intracerebral hemorrhage. Application of ultrasound neuronavigation system aids in improving postoperative outcomes for these patients.

Conclusion: The integration of 3D US with neuronavigation technology created an efficient and inexpensive tool for intraoperative imaging in neurosurgery. The technology has been applied to optimize surgery of brain tumors, but it has also been found to be useful in other procedures such as operations for aneurysms or arteriovenous malformations. iUS is easy to use and has a rapid learning curve which makes it a useful tool to the neurosurgeons intraoperative armamentarium.

Keywords: Neuronavigation, neurosurgery, intraoperative ultrasound, 3D US