In this issue of JOCO, Hashemian and coauthors present “Combined cataract extraction and trabeculotomy by the internal approach for coexisting cataract and open-angle glaucoma”. In this interventional case series, 30 eyes with uncontrolled open-angle glaucoma and cataract were candidates for combined trabeculectomy and phacoemulsification. The mean IOP decreased significantly after one year of surgery ($P < 0.05$). There was a reduction in applications of glaucoma medication from $2.52 \pm 0.60$ at baseline to $1.40 \pm 0.53$ at 12 months. The major complication of surgery was transient blood reflux which resolved rapidly. The authors emphasize the success of such approach and particularly early rehabilitation of the patients.

Aghazadeh Amiri and coworkers have presented “Corneal thickness measurements with Scheimpflug and slit scanning imaging techniques in keratoconus”. In this prospective investigation, the authors determined the repeatability of corneal thickness in different grades (1–3) of keratoconus using and comparing the results to Pentacam and Orbscan imaging. These measurements were taken from the central corneal thickness (CCT) and the thinnest point of the cornea. 74 eyes (30 grade-1, 26 grade-2, and 18 grade-3). The repeatability index of CCT in keratoconus grade 1 to 3 were 12.8, 9.9, 24.2 with Pentacam, and 23.6, 26.3, 59.3 with Orbscan. For the thinnest points, they were 9.6, 8.0, 35.7 with Pentacam and 19.6, 16.6, 26.8 with Orbscan, respectively. The 95% limit of agreement between Pentacam and Orbscan in these two positions were calculated. The results showed that repeatability value of CCT measurements significantly decreased at more advanced stages. In all grades of keratoconus, the repeatability of OCT measurements were better with Pentacam. In the previous studies repeatability was not measured at different stages of keratoconus. This is the first report of repeatability on different grades of keratoconus.

Bamdad and coworkers from Shiraz reported “Stromal cell derived factor-1, CXCR4 and CXCR7 gene transcripts in pterygia”. Pterygium formation is characterized by angiogenesis, proliferation of epithelial cells, collagen remodeling, inflammation, and having tumor cell-like characterization. The authors studied the expression of stromal cell derived factor (SDF-1) an angiogenic chemokine, and its receptors, CXCR4 and CXCR7 in pterygia. The cancer metastasis research has shown the role of SDF-1 in spread of tumor cells. In this prospective study RNA extraction from pterygium of 33 patients with 35 healthy cases were compared. SDF-1 and both its receptors had significantly higher expression in pterygia cases ($P < 0.05$). They conclude that SDF-1 axis may be involved in pterygium as well as cancer formation.

Mohammadpour and coworkers present “Effects of adjuvant omega-3 fatty acid supplementation on dry eye syndrome following cataract surgery: A randomized clinical trial”. It is recommended that dry eye is an important element after phacoemulsification. In this randomized clinical trial, the authors included 61 dry eyes, consequent of phacoemulsification. They divided them in two groups. Group one received classical treatment for dry eye (artificial tears every 4 h and Betamethasone 0.1% every 8 h) for one month. The treatment group received 1000 mg of Omega-3 fatty acid 3 times a day in addition to the classic treatment. There was no significant difference on the two groups at the base-line. Ocular surface disease index (OSDI), Schirmer’s test, tear break up time (TBUT), and tear osmolarity were tested before and after intervention. Mean OSDI and TBUT improved significantly after treatment in both groups, but in respect to group one the treatment group was improved more advantageously. Mean tear film osmolarity improved in both groups but significantly in the treatment group. Schirmer’s test improved in both groups equally. They concluded that omega-3 has additive improving effects on post-surgical dry eye.

Hashemi and coauthors report “The distribution of orbscan indices in young population”. They indicate that with increasing number of refractive surgery, the corneal and anterior segment biometry are more important. In this cross-sectional study through multistage cluster sampling from the students of Mashhad University of Medical Sciences, 1330 subjects were selected and finally 1051 cases were analyzed. The mean age was 26.1 ± 3.2 years, measured by Orbscan the mean of maximum and minimum keratometry, pupillary diameter, corneal diameter, anterior chamber depth, and central corneal thickness was 44.5 ± 1.7, 43.1 ± 1.6, 4.3 ± 0.9, 11.7 ± 0.4, 3.7 ± 0.3, and 550.5 ± 35, respectively. The maximum and minimum keratometry, central corneal thickness, and the thinnest pachymetry were statistically higher in females. The corneal diameter and anterior chamber depth
were statistically higher in males. The pupillary diameter and anterior chamber depth showed significant changes with age.

Karkhaneh and coauthors present “Choroidal thickness in idiopathic macular hole”. In this retrospective, comparative, matched case series they have compared 34 patients (41 eyes) with idiopathic macular hole (IMH) with their unaffected fellow eye, 30 eyes of normal cases, and 12 eyes with IMH after vitrectomy. The axial length measurements were performed by IOL master 500, and choroidal thickness was measured by enhanced depth optical coherence tomography (EDI OCT). They found that thickness was significantly lower in IMH eyes and the fellow eyes of the IMH group compared with the normal eyes. The choroidal thickness remained constant 6 months after vitrectomy. A negative correlation between the apical and basal diameter and subfoveal choroidal thickness (SFCT) \( P = 0.034,\ P = 0.05,\ \text{respectively,} \) and preoperative best corrected visual acuity and apical and basal diameter of IMH was reported \( P = 0.006,\ P = 0.029,\ \text{respectively,} \). In some recent studies the reduction of choroidal thickness in IMH has been indicated which could be considered an additional risk factor for IMH.

Ameri and coauthors report “Botulinum toxin injection in patients with Duane syndrome type 1”. Duane syndrome is a congenital disease affecting ocular motility caused by abnormality of ocular muscles innervation. The aim of the investigators was to evaluate the efficacy of Botulinum toxin (BI) in patients with type 1 Duane syndrome. Sixteen patients were selected, and the BT was injected in the medial rectus of patients. Complete success was defined as residual deviation less than 8 prism diopters (PD) and residual face turn under 5°. Partial success was considered as residual deviation between 8 and 20 PD and residual face turn between 5° and 15°. Failure was defined as no change. The mean esotropia was 26.27 ± 8.35 PD which was reduced significantly after 6 months \( P < 0.001,\) and face turn was improved significantly at 6 months \( P < 0.001.\) Complete success was seen in 6 cases, partial success in 4 cases, and failure in 6 patients.

In a prospective analysis, Kasare and coauthors have presented “The predictive factors of diplopia and extraocular movement limitations in isolated pure blow-out fracture”. Their aim was to evaluate the predictive factors for development of diplopia and extraocular muscle (EOM) movement limitation in patients with isolated pure blow-out fracture. 132 cases were selected, and 60 cases (45.5%) required surgery. The indications of surgery in this study were enophthalmos >2 mm, extensive fracture, persistent diplopia, entrapment of muscle, ocular cardiac reflex. Computerized tomography was used for definitive diagnosis. For analysis logistic regression and receiver operating characteristic (ROC), curve was applied. At first visit, 45 cases (75%) of the surgical group and 15 cases (20.8%) of the non-surgical patients had diplopia. After 6 months 7 cases (11.7%) of surgical and 1 case (1.4%) of non-surgical group had persistent diplopia. The type of fracture (inferior + medial wall) was significantly associated with initial diplopia and limitation of EOM movement. In the ROC curve analysis, if the intervention was done before 4.5 days after trauma, the risk of postoperative diplopia and EOM movement limitation was reduced considerably.

Eshraghi and coworkers present “Conjunctival bacterial flora in fellow eyes of patients with unilateral nasolacrimal duct obstruction and its changes after successful dacryocystorhinostomy surgery”. Their aim was to evaluate the conjunctival culture in the fellow eyes of patients with nasolacrimal duct obstruction (NLDO) before and after dacryocystorhinostomy (DCR). In this prospective study, three groups: group A (38 cases) with purulent regurgitation, group B (33 cases) without, and the control group (41 cases) without NLDO were compared. 17 patients also had silicone intubation during the intervention. The culture was obtained every week until it became negative or comparable to the control group. The culture was positive, most commonly for staphylococcus epidermidis and secondary for streptococcus viridans in 79% of the fellow eyes in NLDO group and 41.4% in the control group. The mean count of colonies was highest in the purulent group. The mean time of post-op normalization ranged between 1 and 4 weeks. Initial higher colony count and insertion of silicone tube were significantly associated with longer normalization of the fellow eye. They concluded that after DCR, a period of 4 weeks is mandatory for any safe intraocular intervention.

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