PO-1402-005
TELEMEDICINE WITH SMART SOFTWARE FOR RETINOPATHY OF PREMATURITY SCREENING: EXPERIENCE FROM A PROGRAM IN THE USA AND PROSPECTS FOR USE
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Retinopathy of prematurity (ROP) remains a leading cause of preventable blindness in premature infants worldwide. ROP screening is the most important part of ROP care, which determines proper timing for treatment. The standard method for diagnosis of ROP – bedside binocular indirect ophthalmoscopy (BIO) has many limitations. Effectiveness of a telemedicine approach, using wide angle remote digital fundus imaging and Smart Software for ROP screening, was demonstrated. Telemedicine can supplant BIO examination as a primary approach for ROP screening, reduce human error, provide better care, reduce physician time and therefore reduce cost for ROP screening.
Key words: retinopathy of prematurity; screening; telemedicine

PO-1402-009
OCULAR MANIFESTATIONS OF BLOCH-SULZBERGER SYNDROME
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Clinical examination data of three various ages children with Bloch-Sulzberger syndrome ophthalmic manifestations are presented. It was found that this ocular pathology detects in early postnatal age and manifests with the presence of peripheral retinal avascular zones and retinal vessels changes. The long-term ophthalmic manifestation of the syndrome may have different clinical changes, various clinical and functional outcome that determines the necessity for compulsive ophthalmological examination in the early stages and dispensary observation of children with Bloch-Sulzberger syndrome.
Key words: Bloch-Sulzberger syndrome; children; hereditary diseases; retinal detachment

PO-1402-014
IMMUNE RESPONSE MEDIATORS ROLE AND LACRIMAL FLUID COAGULATION ACTIVITY IN ALLERGIC EYE DISEASES IN CHILDREN
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This review presents the study of immunological factors level, hematological indices, as well as fibrinogen and coagulation activity in the lacrimal fluid of 76 children with allergic eye diseases. In 34 children pathology associated with allergic disease changes, in 42 children — with infectious changes. Sensibilization index and IgE elevation in the setting of C - reactive protein level lowering in the lacrimal fluid were the differential ethiopathogenetic characteristics in children with allergic changes. Whereas allergic eye diseases of delayed skin reaction with leukocyte index of intoxication and C - reactive protein elevation revealed in children with infectious changes. The analysis of lacrimal fluid coagulation activity factors and fibrinogen concentration in children with allergic eye diseases indicates retina and choroid blood vessels disorders.
Key words: allergic eye disease; immune; hematologic indexes; coagulation activity; children.

PO-1402-017
HEMANGIOMA TREATMENT EFFICIENCY OF THE COMBINED ORBITAL AND PERIORBITAL AREAS IN INFANTS
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This research was designed to evaluate the efficiency and safety of the orbital and periorbital areas hemangiomas' combined conservative treatment in 105 infants. Hormone and radiotherapy used in 37 children, 33 children received only radiotherapy, 35 children underwent surgical intervention. The average age was 17,5±6,8 months. Radiotherapy was performed fractionally, single doses varied from 0.3 Gy to 1.7 Gy. Total number of fractions depended on tumor size and its rate of growth, nearly 5-8 per course, total tumor dose ranged from 8 to 12 Gy. It was demonstrated that previous surgical and parasurgical intervention lead to radiotherapy poor starting conditions, treatment prolongation, increase total radiation dose. This study shows a high clinical efficiency of hemangiomas’ combined treatment using radio- and hormonal therapy, good cosmetic effect and reducing of complications incidence. The use of these approaches in
hemangiomas' treatment is characterized by more rapid process completing, which is obviously due to the high radiosensitivity of infant hemangiomas.

**Key words:** hemangioma; children; orbital area; radiotherapy; hormone therapy

**PO-1402-022**

**MELANOCYTIC LESIONS OF THE CONJUNCTIVA**

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The article presents the examination and treatment of 467 children with melanocytic tumors of the conjunctiva. The analysis of medical history, clinical presentation, optical coherence tomography and patient outcomes. We analyzed the histologic pattern of the distant tumors, risk factors of tumor malignancy and proved the therapeutic approaches.

**Key words:** conjunctiva tumor; melanocytic lesion of the conjunctiva; morphological examination; optical coherence tomography; autorefractometry; malignancy

**PO-1402-025**

**ANALYSIS OF THE OBJECTIVE AND SUBJECTIVE ACCOMMODATION PARAMETERS AT ITS SPASM**

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20 patients (40 eyes) aged from 5 to 19 years were examined to study the objective and subjective accommodation parameters at its spasm. The control group consisted of 130 patients (260 eyes) with varying degrees of myopia. Habitual accommodative tonus was on average -2.95 D, maximum was 17.37 D. Habitual accommodative tonus in the open field was much lower: -0.49 D. The tonus of accommodative resting position reached unusually high values: on average -2.58 D and maximum -9.56 D. Objective accommodative response on average was normal, but it had the average of extremely low and inflated values. Typically the objective accommodative response varied considerably in fellow eyes. Thus, in 10% of cases overvalued binocular accommodative response accompanied by a sharp decline of monocular. Objective verification of the accommodative negative part revealed a decreased ability of the ciliary muscle in spasm to relax in response to the plus lens.

**Key words:** myopia; spasm of accommodation; objective accommodation measurement

**PO-1402-030**

**THE ROLE OF EYE BIOMECHANICAL PARAMETERS IN THE DEVELOPMENT OF CONGENITAL GLAUCOMA IN CHILDREN**

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The objective of this review was to study biomechanical parameters of the eye in children with different stages of congenital glaucoma. 20 patients (40 eyes) aged from 1 month to 3 years with simple primary congenital not operated glaucoma were examined. 7 patients (14 eyes) entered in the 1st group (developed stage), 8 patients (16 eyes) — the 2nd group (passed stage), 5 patients (10 eyes) — the 3rd group (end-stage) respectively. Research methods included visiometry, refractometry, ophthalmoscopy, definition of the optic disc excavation, ultrasound A-scan of the anterior posterior size of the eye, Filatov’s - Kalfa elastotonometry with weights 5g, 10g, 15g. The analysis of the data shows that gradient of the elastotonometry graphs elevation registered in all groups, but the highest was in group of children with terminal stage. Thus the anteroposterior size of the eye and intraocular pressure increase corresponding to disease severity.

Biomechanical parameters of the eye increase according to the stages of a congenital glaucoma first form. The decrease of sclera rigidity shows morphological changes of the eye tissue and severity of glaucoma process.

**Keywords:** congenital glaucoma; sclera rigidity; elastotonometry; elastotonometry graphs; elastotonometry graphs elevation

**PO-1402-032**

**FEMTOSECOND LASER-ASSISTED ANTERIOR LAMELLAR KERATOPLASTY IN PATIENTS WITH CORNEAL OPACITIES**

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The purpose of the study was to explore the possibilities of femtosecond laser-assisted anterior lamellar keratoplasty in patients with corneal opacities of various etiology.
Materials and Methods. Femtosecond laser-assisted anterior lamellar keratoplasty (FALK) performed in 8 patients (4 males, 4 females) with superficial corneal opacities at the age from 16 to 20 years. Etiology of corneal opacities: in 3 cases — keratitis of unknown etiology, 2 - herpetic keratitis, 2 — burns, 1 - ulcer.

Examination technics: visometry, autorefractometry, biomicroscopy, ophthalmoscopy, tonometry, ultrasonic examination, optical coherence tomography of the anterior segment (OCT), confocal microscopy.

Results. A year later all patients showed a clear layering graft retention. One year after surgery corrected visual acuity was on average 0.5 (0.2 - 1.0). According to the anterior segment OCT transplant adaptation was complete in all cases and full compliance with corneal transplant and recipient bed was achieved. In all casestransplants were uniform in all quadrants.

According to confocal microscopy data we achieved a healthy graft with good density of keratocytes, normal stroma reflectivity, interface hyperreflektivity and several activated keratocytes. The average of endothelial cells density loss for one year after surgery was 1.8 %, what is comparable to the annual loss of endothelial cells as a result of natural involution processes. Therefore, laser radiation does not have an impact on the cornea deep layers during operation.

Conclusions. Femtosecond laser application in the anterior lamellar keratoplasty allows to control all sections parameters (size, shape, depth and location), thereby reducing the risk of intra - and postoperative complications. According to the anterior segment OCT data the thickness of layered graft and the recipient bed was the same in all quadrants after surgery, indicating the precision of this surgical method.

Key words: keratoplasty; corneal opacity; femtosecond laser

PO-1402-036
COMPLEX THERAPY OF ATOPIC KERATOCONJUNCTIVITIS IN CHILDREN
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The purpose of the study was to evaluate the efficacy and acceptability of the drug Restasis® in treatment of atopic keratoconjunctivitis in children.

The study enrolled 16 patients (32 eyes) with atopic keratoconjunctivitis at the age from 10 to 16 years. Restasi- sis® put on 2 drops 2 times a day during 6 months.

It was determined that Restasis® is well tolerated by patients, gives significant and stable therapeutic effect confirmed by long period of clinical observation. Besides, it improves dry eye symptoms, reduces the risk of complications in long-term use of corticosteroids.

Key words: atopic keratoconjunctivitis; atopic dermatitis; allergic keratitis; cyclosporine

PO-1402-039
NOSOLOGICAL CORNEAL OPACITIES STRUCTURE IN CHILDREN: BACKGROUND
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This paper presents the structure and diseases of the cornea pathology leading to childhood blindness and visual impairment in different regions of the world. Epidemiology of corneal opacities in children examined in histori- cal perspective, taking into account the socio-economic development of society.

In economically developed European countries and America, the main cause of corneal opacities in children are congenital malformations of the eye anterior segment, in developing countries, the leading cause of corneal blindness occupy inflammatory corneal opacity (due to previous infectious keratitis), and eye injuries.

Key words: children; corneal opacity; blindness; low vision; keratoplasty; cornea; vision

PO-1402-044
OPTIMAL APPROACH TO PATIENTS WITH CONGENITAL ANOPHTHALMIA AND MICROPHTHALMIA REHABILITATION
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Technique of step by step prosthetic repair, methods of surgical treatment, hygiene of sack and prosthesis are described, following the result of treating more than 300 children with a congenital anophthalmia and microphthalmia. Our investigations have confirmed, that the best results in aftertreatment of patients with congenital anophthalmia and microphthalmia were achieved in the group where primary method of treatment was only a prosthetic repair. Surgical treatment was done, when unable to perform simple prosthetic repair such as elimination of entropion, epicanthus, correction of an upper eyelid fold, additional plasty of a stump. Developed algorithm of prosthetic repair and surgical treatment essentially increases efficiency of aftertreatment in patients with congenital anophthalmia and microphthalmia, therefore it is recommended for use in practice of pediatric ophthalmology.

Key words: congenital anophthalmia and microphthalmia; step prosthetic repair; surgical and nonsurgical methods of treatment; ocular prosthesis hygiene