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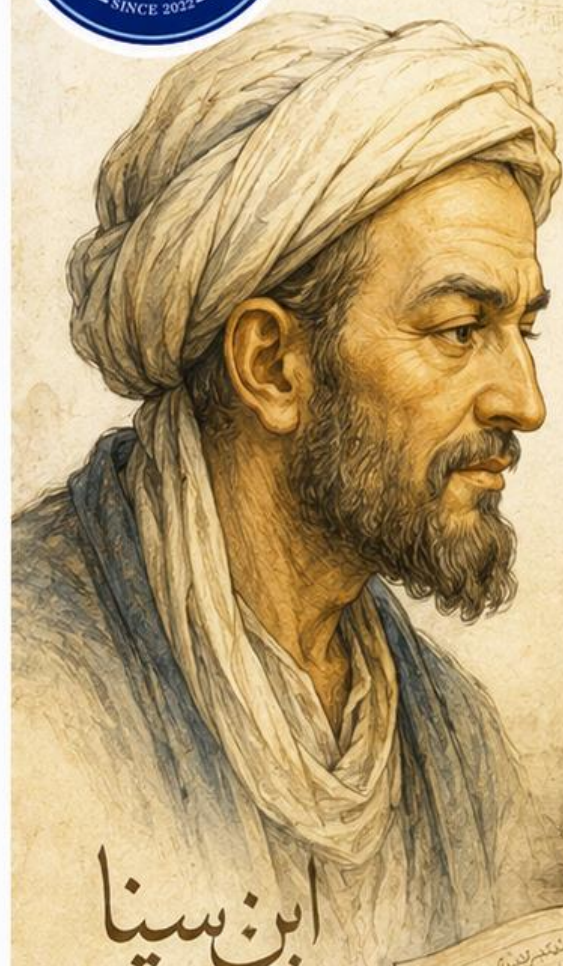
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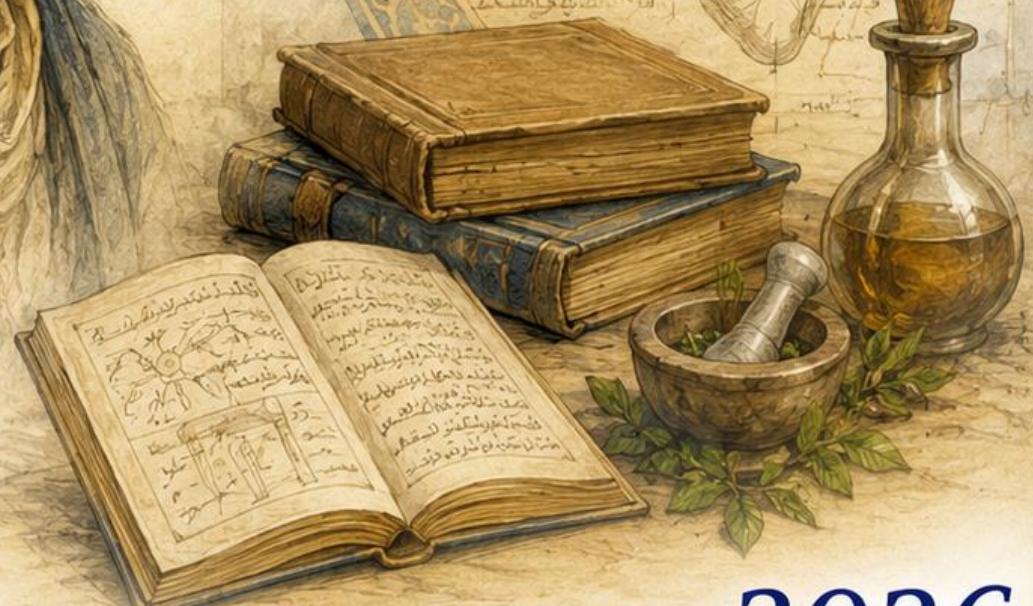
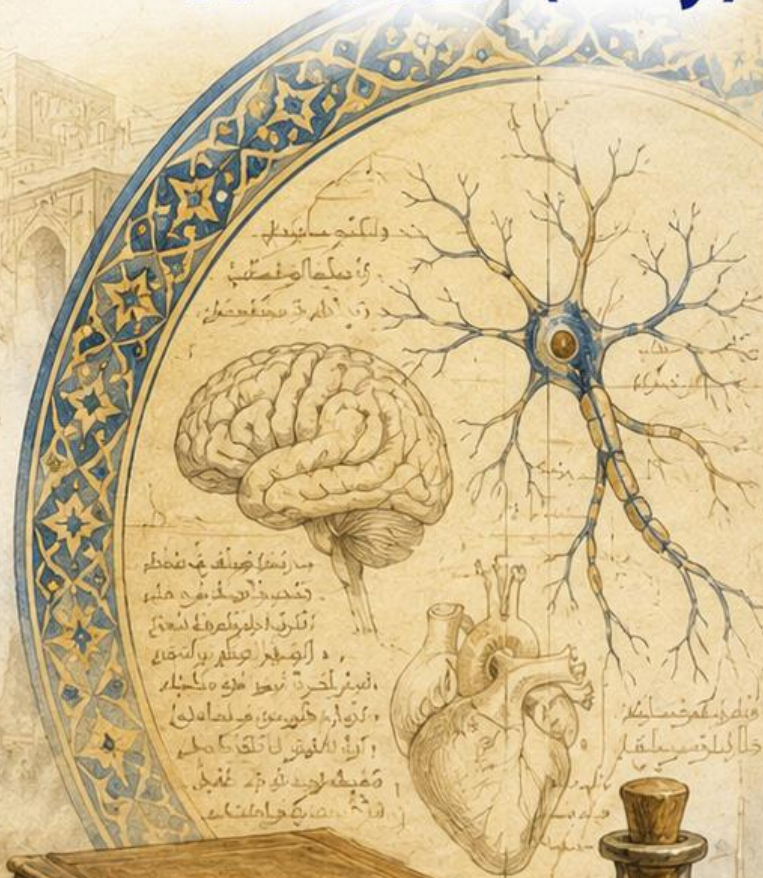
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CLINICAL AND EPIDEMIOLOGICAL PROFILE OF ZYGOMATICO-ORBITAL COMPLEX FRACTURES: A RETROSPECTIVE ANALYSIS OF 120 CASES

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Background: Zygomatico-orbital complex (ZOC) fractures represent one of the most common mid-face injuries, accounting for 25–40% of all facial skeletal trauma. Despite their frequency, epidemiological data specific to Central Asian populations remain scarce. Understanding the local epidemiological profile-including etiology, demographic distribution, and clinical presentation-is essential for optimizing diagnostic protocols and planning healthcare resource allocation.

Objective: To analyze the epidemiological characteristics, injury mechanisms, and clinical presentation patterns of ZOC fractures in patients treated at Tashkent State Medical University over a five-year period.

Materials and Methods: A retrospective analysis was conducted on 120 patients diagnosed with ZOC fractures (Knight–North classification, types II–IV) and treated at the Department of Maxillofacial Surgery, Tashkent State Medical University, between 2018 and 2023. Demographic data (age, sex), injury etiology, time from injury to presentation, fracture type, and clinical features were extracted from medical records. Cone-beam computed tomography (CBCT) findings were reviewed for all patients. Statistical analysis was performed using SPSS Statistics version 26.0; descriptive statistics and χ^2 test were applied (significance level $p < 0.05$).

Results and Discussion: The cohort comprised 89 males (74.2%) and 31 females (25.8%), with a mean age of 33.6 ± 11.4 years (range: 18–67 years). The most affected age group was 21–40 years (61.7% of cases). Periorbital edema and ecchymosis were observed in all patients (100%), followed by malar flattening in 85.8% and infraorbital hypoesthesia in 72.5% of cases. Step deformity at the infraorbital rim was present in 80.8%, while subconjunctival hemorrhage occurred in 63.3% of patients. Diplopia was reported in 45.0% and enophthalmos (≥ 2 mm) in 34.2% of cases. Trismus was observed in 40.0% of patients. Knight–North type III fractures were most prevalent (44.2%), followed by type II (31.7%) and type IV (24.1%). Road traffic accidents were significantly associated with higher fracture severity (types III–IV; $p = 0.019$). Infraorbital hypoesthesia correlated with fracture displacement > 5 mm on CBCT ($r = 0.61$, $p < 0.001$). Diplopia was significantly more common in fractures involving the orbital floor (68.5% vs. 28.4%; $p < 0.001$). The male predominance and high proportion of violence-related injuries are consistent with data from comparable studies in developing countries (Ellis, 2019; Al-Qamachi et al., 2021).

Conclusion: ZOC fractures predominantly affect young adult males, with interpersonal violence and road traffic accidents as the leading causes. Type III fractures represent the most common pattern. Infraorbital hypoesthesia and diplopia are frequent presenting features and strongly correlate with fracture severity. These findings provide clinically relevant evidence for optimizing diagnostic and management strategies and may inform regional injury prevention policies.

XORAZM VILOYATIDA PLATSENTANING PATOLOGIK JOYLASHUVI BILAN BOG'LIQ MASSIV QON KETISH HOLATLARIDA RAQAMLI TEXNOLOGIYALARNI AMALIYOTGA TADBIQ QILISH

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Dolzarbliqi: So'nggi o'n yil ichida yo'ldoshning oldinda joylashuvi va platsentaning bachadon devoriga chuqur kirib borishi (placenta previa va placenta accreta) bilan kechayotgan homilador ayollar soni 1,5 baravar oshdi. Ushbu holat massiv akusherlik qon ketishlari rivojlanish xavfi yuqori bo'lgan guruhga kiradi hamda onalar o'rtasidagi kasallanish va o'lim ko'rsatkichlariga

shular jumlasidandir. Hozirgi vaqtda bu kabi vaziyatlarda ushbu usulning xavfsizligi to'g'risida yetarli ilmiy ma'lumotlar mavjud emasligi sababli ular nisbiy qarshi ko'rsatmalar sifatida baholanadi. Bizning tajribamizga ko'ra, kesarcha kesish operatsiyasi vaqtida auto qon yig'ish va autotransfuziya qilish og'ir intraoperatsion akusherlik qon ketishlarini boshqarishda xavfsiz yordamchi usul hisoblanadi. Bundan tashqari, kesarcha kesish jarayonida katta hajmdagi qonni tezkor va nisbatan arzon tarzda qayta quyish imkoniyati ushbu texnologiyaning tug'ruq va operativ akusherlik amaliyotida keng qo'llanilishiga olib kelgan. Qon banki resurslari cheklangan chekka hududlardagi shifoxonalarda ayrim holatlarda kesarcha kesish vaqtida auto qon yig'ish va autotransfuziya usulidan foydalanish bemor hayotini saqlab qolishda muhim ahamiyat kasb etishi mumkin. Yirik ixtisoslashgan akusherlik markazlarida esa kesarcha kesish operatsiyasi vaqtida yuzaga keladigan qon ketishlarni xavfsiz bartaraf etishning yagona usulidir.

EFFICACY OF TITANIUM IMPLANTS AND ENDOPR OSTHETIC MESH IN SURGICAL RECONSTRUCTION OF ZYGOMATICO-ORBITAL COMPLEX FRACTURES

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Background: Orbital floor reconstruction following zygomatico-orbital complex (ZOC) fractures remains one of the most technically demanding challenges in maxillofacial surgery. While titanium miniplates are the gold standard for zygomatic arch and infraorbital rim fixation, orbital floor defects require additional support to prevent enophthalmos and persistent diplopia. Titanium endoprosthetic mesh (TEM) has emerged as a versatile material offering rigidity, biocompatibility, and precise contouring. However, data on its application in a Central Asian clinical context, including long-term functional outcomes and complication profiles, remain limited.

Objective: To evaluate the clinical efficacy, functional outcomes, and complication profile of a combined titanium miniplate and endoprosthetic mesh technique for surgical reconstruction of ZOC fractures.

Materials and Methods: A prospective case series was conducted on 45 patients with ZOC fractures involving orbital floor disruption (orbital floor defect $\geq 1 \text{ cm}^2$) treated at the Department of Maxillofacial Surgery, Tashkent State Medical University, between 2020 and 2023. All patients underwent open reduction and internal fixation using a standardized protocol: (1) transconjunctival approach for orbital floor exposure, (2) zygoma repositioning with titanium miniplates at two- or three-point fixation, and (3) orbital floor reconstruction with a pre-contoured titanium endoprosthetic mesh (Stryker, 0.4 mm thickness). Outcomes assessed at 1, 3, 6, and 12 months included: diplopia (Hess screen test), enophthalmos (Hertel exophthalmometry), infraorbital sensation (static esthesiometry), ocular motility (ocular motility grading), and postoperative complications.

Results: The cohort comprised 34 males (75.6%) and 11 females (24.4%), with a mean age of 32.7 ± 9.8 years. Knight–North type III fractures predominated (53.3%). The mean orbital floor defect area was $1.8 \pm 0.7 \text{ cm}^2$, and the mean operative time was 87 ± 22 minutes.

Preoperatively, diplopia was present in 68.9% of patients, enophthalmos ($\geq 2 \text{ mm}$) in 51.1%, infraorbital hypoesthesia in 77.8%, and ocular motility restriction in 57.8% of cases.

At 3 months, these values improved to 13.3%, 8.9%, 26.7%, and 11.1%, respectively. At 12 months, diplopia persisted in only 4.4% of patients, enophthalmos in 2.2%, infraorbital hypoesthesia in 8.9%, and ocular motility restriction in 4.4% of cases.

Patient satisfaction scores increased from 7.8 ± 1.1 at 3 months to 8.9 ± 0.8 at 12 months. Diplopia resolved completely in 95.5% of cases by 12 months, while enophthalmos was corrected in 97.8% of patients. Infraorbital sensation normalized in 91.1% of patients.

Complications included implant palpability without removal (4.4%), mild lower eyelid retraction that resolved spontaneously (2.2%), and wound dehiscence (2.2%). No implant removal was required.

Conclusion: The combined titanium miniplate and endoprosthetic mesh technique demonstrates high efficacy in ZOC reconstruction, achieving resolution of diplopia in 95.5% and enophthalmos in 97.8% of cases at 12 months, with a low complication profile (4.4% minor complications, 0% implant removal rate). This technique is recommended as a reliable approach for ZOC fractures with concurrent orbital floor involvement. Prospective randomized studies comparing mesh types and thicknesses are warranted.

PULPITNING ASOSIY ASSORATLARI VA PROFILAKTIKASI

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Dolzarbliigi. Tish og'rig'i — insonning kundalik hayotida eng ko'p uchraydigan og'riqli holatlardan biri bo'lib, global epidemiologik tadqiqotlar dunyo aholisining 40–60% i hayotida kamida bir marta o'tkir tish og'rig'ini boshdan kechirishini ko'rsatmoqda [3, 5, 6]. Bu og'riqning asosiy sababi — pulpitis, ya'ni tish pulpasining (yumshoq to'qimaning) yallig'lanishi. Pulpitis stomatologiya amaliyotidagi murojaat sabablarining 30–45% ini tashkil etadi. Pulpitis og'rig'ining o'ziga xos va klinik jihatdan muhim xususiyati — uning tunda, ayniqsa uxlash paytida sezilarli darajada kuchayishi. Bu holat stomatologiyada yaxshi ma'lum bo'lsa-da, uning chuqur biologik mexanizmlari ko'pchilik tibbiy xodimlar tomonidan yetarlicha tushunilmaydi. Natijada bemorlar «bu yerda qorong'ilik bo'lgani uchun og'riq kuchaydi» yoki «miya uxlamayotganda og'riqni ko'proq his qiladi» kabi noto'g'ri tushunchalar bilan shifokorga murojaat qiladi [2, 4, 7, 8].

Aslida, tunda pulpitis og'rig'ining kuchayishi — ko'p komponentli xronofiziologik va neyroimmunologik jarayondir. Bu jarayonning o'zagi shuki: tunda organizmning bir qancha biologik ko'rsatkichlari o'zgaradi va ular yig'indisi pulpada yallig'lanish intensivligini oshiradi [1, 9, 10]. Ushbu maqolada aynan shu mexanizmlar ilmiy jihatdan yoritiladi. Ikkinchi muhim muammo — «uyqudagi xavf»: bemorlar tunda shiddat bilan og'rig'ni his qilib, og'riq qoldiruvchi dorilar bilan vaqtinchalik engillashtiriladilar va ertasiga shifokorga bormaydilar. Bu «kuting va ko'ring» (wait-and-see) yondashuvi o'tkir pulpitisning surunkali shakliga, keyinchalik esa periodontitga, periapikal abscessga va hatto hayot uchun xavfli bo'lgan flegmon va sepsis holatlariga olib kelishi mumkin.

Tadqiqot maqsadi. Pulpitis og'rig'ining tunda kuchayishi mexanizmlarini xronofiziologik va neyrobiologik jihatdan tizimli bayon etish. Kechiktirilgan diagnostika asoratlarning klinik va epidemiologik ahamiyatini ko'rsatish. Diagnostik algoritmlar va profilaktika bo'yicha tavsiyalar ishlab chiqish.

Tadqiqot materiali va usullari. Ushbu tadqiqot tizimli tahlil va meta-tahlil elementlarini o'z ichiga olgan ilmiy sharh hisoblanadi. Tadqiqot jarayonida so'nggi o'n yillik davomida e'lon qilingan xalqaro va mahalliy ilmiy adabiyotlar tahlil qilindi. Ma'lumotlar manbasi va qidiruv strategiyasi: tadqiqot uchun materiallar quyidagi elektron ma'lumotlar bazalaridan saralab olindi: PubMed/MEDLINE, Scopus, Web of Science va Cochrane Library. Google Scholar va milliy ilmiy platformalar. Qidiruv jarayonida «pulpitis nocturnal pain», «circadian rhythm in dentistry», «intradental pressure mechanisms», «cortisol dental pain correlation» va «odontogenic life-threatening complications» kabi kalit so'zlardan foydalanildi. Tanlab olish mezonlari: tahlilga jalb etilgan materiallar quyidagi mezonlar asosida saralandi: 2016-yildan keyin chop etilgan, randomizatsiyalangan klinik sinovlar (RCT), tizimli ko'rib chiqishlar va impakt-faktori yuqori bo'lgan jurnallardagi meta-tahlillar. Metodologik xatolari mavjud bo'lgan, isbotlanmagan klinik holatlar va 2016-yilgacha bo'lgan eskirgan ma'lumotlar fundamental bazaviy tushunchalar mustasno.

Tadqiqotda quyidagi usullardan foydalanildi: Retrospektiv tahlil: O'zbekiston (masalan, Farg'ona viloyati) sharoitida bemorlarning stomatologga murojaat qilish vaqti va kechikish sabablari statistik ko'rsatkichlari tahlil qilindi. Xronofiziologik qiyoslash: Pulpitis og'rig'ining tunda kuchayishini izohlovchi gormonal (kortizol) va mexanik (intradental bosim) o'zgarishlar o'rtasidagi korrelyatsiya koeffitsiyenti ($r = -0.64$) o'rganildi. Klinik-diagnostik algoritmlash: AAE (American Association of Endodontists) va ESE (European Society of Endodontology) ning 2020–2023 yillardagi yangilangan

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