

YUZDAGI ASIMMETRIYA: SABABLARI, KLINIK BAHOLASH VA JARROHLIK DAVOLASHNING ZAMONAVIY YONDASHUVLARI

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Аннотация

Ushbu maqolada yuzdagi asimmetriyaning kelib chiqish sabablari, klinik va instrumental baholash usullari hamda jarrohlik davolashning zamonaviy yondashuvlari ilmiy manbalar asosida tahlil qilinadi. Yuz skeleti suyaklari, yumshoq to'qimalar va nerv-mushak tizimining anatomik xususiyatlari yuz asimmetriyasining shakllanishida muhim omil sifatida ko'rib chiqiladi. Klinik baholash jarayonida vizual tahlil, fotogrammetriya va radiologik tekshiruvlarning ahamiyati yoritiladi. Shuningdek, ortognatik, rekonstruktiv va estetik jarrohlik usullarining biomekanik va klinik samaradorligi muhokama qilinadi. Zamonaviy raqamli rejalashtirish texnologiyalarining yuz simmetriyasini tiklashdagi roli alohida ta'kidlanadi.

Калит со'злар

yuz asimmetriyasi, kraniofasial anatomiya, klinik baholash, ortognatik jarrohlik, rekonstruktiv jarrohlik, 3D rejalashtirish, yuz estetikasi.

Аннотация

В статье на основе научных источников рассматриваются причины возникновения асимметрии лица, методы клинической и инструментальной диагностики, а также современные хирургические подходы к лечению. Анализируются анатомические особенности лицевого скелета, мягких тканей и нервно-мышечной системы, играющие ключевую роль в формировании асимметрии лица. Освещается значение визуального анализа, фотограмметрии и радиологических методов исследования. Представлены современные ортогнатические, реконструктивные и эстетические хирургические методы коррекции лицевой асимметрии с учетом биомеханических и клинических аспектов.

Ключевые слова

асимметрия лица, краниофациальная анатомия, клиническая диагностика, ортогнатическая хирургия, реконструктивная хирургия, 3D-планирование.

Annotation

This article reviews the etiology of facial asymmetry, clinical and instrumental assessment methods, and modern surgical treatment approaches based on scientific literature. Anatomical characteristics of the facial skeleton, soft tissues, and neuromuscular system are analyzed as key factors in facial asymmetry development. The importance of visual assessment, photogrammetry, and radiological imaging is highlighted. Contemporary orthognathic, reconstructive, and aesthetic surgical techniques are discussed, with particular emphasis on digital planning technologies in restoring facial symmetry.

Keywords

facial asymmetry, craniofacial anatomy, clinical assessment, orthognathic surgery, reconstructive surgery, 3D planning.

Kirish: Yuz tuzilishining simmetrikligi inson tashqi qiyofasining muhim estetik ko'rsatkichi bo'lib, shuningdek, ijtimoiy muloqot jarayonida sezilarli funksional ahamiyatga ega. Yuzning o'ng va chap yarlari o'rtasidagi morfologik va funksional nomutanosiblik yuz asimmetriyasi tushunchasi bilan izohlanadi. Fiziologik darajadagi yengil asimmetriya ko'pchilik sog'lom shaxslarda uchrashi mumkin bo'lsa-da, yaqqol namoyon bo'ladigan holatlar tashqi ko'rinishning buzilishi, psixoemotsional holatning yomonlashuvi hamda chaynash, nutq va mimik faoliyatning cheklanishiga olib keladi [1], [3]. Kraniofasial jarrohlik, radiologik diagnostika va raqamli modellashtirish sohalarida kuzatilayotgan texnologik taraqqiyot yuz asimmetriyasini aniqlash hamda uni samarali korreksiya qilish imkoniyatlarini sezilarli darajada kengaytirmoqda [2], [13], [27].

Metodologiya: Ushbu ilmiy ishni tayyorlash jarayonida 2005–2024 yillar davomida nashr etilgan ortodontiya va kraniofasial jarrohlik yo'nalishidagi 25 dan ortiq ilmiy maqolalar, monografiyalar hamda klinik tadqiqot natijalari tahlil qilindi. Ma'lumotlar PubMed, Scopus va ScienceDirect elektron ma'lumotlar bazalaridan tanlab olindi. Tahlil jarayonida quyidagi yo'nalishlar asosiy mezon sifatida belgilandi [4], [5], [16]:

- yuz asimmetriyasining etiologik va patogenetik omillari;
- klinik hamda instrumental diagnostika usullarining samaradorligi;

- ortognatik va rekonstruktiv jarrohlik usullarining qo'llanilish imkoniyatlari;
- yuz yumshoq to'qimalarining ortodontik va jarrohlik yuklamalarga biologik javobi.

Olingan ilmiy ma'lumotlar o'zaro solishtirilib, mavjud yondashuvlarning afzalliklari va cheklovlari aniqlashtirildi [11], [17].

Natijalar. Yuz asimmetriyasining kelib chiqish omillari: Ilmiy manbalar tahlili shuni ko'rsatadiki, yuz asimmetriyasi kelib chiqishiga ko'ra tug'ma va orttirilgan shakllarga ajratiladi [3], [7]. Tug'ma asimmetriya embrional rivojlanish bosqichida yuz va jag' suyaklarining notekis differensiyalanishi, yarim yuz gipoplaziyasi hamda nerv-mushak apparatining rivojlanish nuqsonlari bilan bog'liq bo'ladi [4], [8]. Orttirilgan yuz asimmetriyasi esa hayot davomida yuz-jag' sohasidagi travmalar, yuz nervi falaji, yallig'lanish va o'smali jarayonlar, shuningdek noto'g'ri ortodontik yuklamalar natijasida shakllanadi [6], [9].

Klinik va instrumental baholash: Yuz asimmetriyasini klinik baholash jarayonida bemorning yuz tuzilishi frontal va lateral proyeksiyalarda tahlil qilinadi, anatomik orientirlar o'rtasidagi masofalar hamda mimik harakatlar simmetriyasi aniqlanadi [6], [10]. Fotogrammetrik tahlil va uch o'lchamli skanerlash texnologiyalari kichik darajadagi morfologik farqlarni aniqlashda yuqori aniqlikni ta'minlaydi [11], [17]. Radiologik tekshiruvlar, xususan kompyuter tomografiyasi va konus-nurli tomografiya, yuz skeleti suyaklaridagi strukturaviy o'zgarishlarni baholashda muhim diagnostik ahamiyatga ega bo'lib, jarrohlik rejalashtirishda keng qo'llaniladi [16], [21].

Tahlil va muhokama: Yuz asimmetriyasini jarrohlik yo'li bilan korreksiya qilish individual klinik yondashuvni talab etadi va patologiyaning og'irlik darajasi hamda etiologiyasiga bog'liq holda tanlanadi [2], [25]. Jag' suyaklarining fazoviy joylashuvi bilan bog'liq asimmetriyalarda ortognatik jarrohlik yetakchi davolash usuli hisoblanadi. Ushbu jarrohlik aralashuvi suyak tuzilmalarining anatomik muvozanatini tiklab, yuzning umumiy simmetriyasi va funksional ko'rsatkichlarini yaxshilashga xizmat qiladi [10], [14].

Yumshoq to'qimalar ustun bo'lgan asimmetriyalarda esa lipofilling, yuz implantlari yoki botulinum toksini in'eksiyalari kabi estetik korreksiya usullari qo'llaniladi [13], [19]. Ushbu yondashuvlar kam invazivligi bilan ajralib turadi va yuz konturlarini muvozanatlashtirishda ijobiy natijalar beradi [26], [28].

So'nggi yillarda 3D rejalashtirish, virtual modellashtirish va individual implantlardan foydalanish jarrohlik aniqligini sezilarli darajada oshirdi hamda operatsiyadan keyingi natijalarni oldindan prognoz qilish imkonini yaratdi [19], [20], [22]. Tadqiqot natijalari raqamli texnologiyalar asosida bajarilgan jarrohlik

aralashuvlari yuz simmetriyasini tiklashda an'anaviy usullarga nisbatan yuqori samaradorlikka ega ekanini ko'rsatadi [17], [21].

Xulosa: Yuz asimmetriyasi ko'p omilli va murakkab klinik muammo bo'lib, uning muvaffaqiyatli davolanishi aniq tashxis, to'g'ri klinik baholash va individual rejalashtirishga bevosita bog'liqdir [4], [12]. Zamonaviy diagnostika usullari va innovatsion jarrohlik texnologiyalari yuz simmetriyasini estetik va funksional jihatdan samarali tiklash imkoniyatlarini kengaytirmoqda [18], [24]. Multidisiplinar yondashuv hamda raqamli rejalashtirish texnologiyalaridan foydalanish yuz asimmetriyasini davolashda barqaror va prognoz qilinadigan klinik natijalarga erishishni ta'minlaydi [21], [25].

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