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Kitap, bruksizmden gülümsemenin bilimsel değerlendirilmesine, endodontik tedavi sonrası restorasyonlardan ortognatik cerrahinin biyomekanik etkilerine kadar geniş bir yelpazede konuları işlemektedir. Ayrıca, dişhekimliğinde yenilikleri takip etmenin ve bunlardan faydalanmanın önemini vurgulayan klinik uygulamalara yer verilmiştir. Her bir bölüm, ilgili konunun derinlemesine incelenmesiyle birlikte, güncel bilgi ve tekniklerin paylaşılmasını sağlamaktadır.

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Bölüm 1

ENDODONTİK TEDAVİ SONRASI RESTORASYONLAR

Emre BAYRAM[1]

GİRİŞ

Endodontik tedavi, dentinin mikroyapısal değişikliklerinden ve mekanik özelliklerinin değişikliklerinden sorumludur (1). Kök kanal tedavili dişler, endodontik tedaviden sonra canlı dişlere benzemezler. Endodontik tedavinin neden olduğu; dentin yapısında değişiklik, dişte açılan giriş kavitesi ve dişin canlılığını kaybetmesi gibi faktörler dişin zayıflmasına yol açar (2). Pulpa canlılığının kaybı aynı zamanda dentinin nem içeriğini etkiler ve çeşitli operatif prosedürlerle ilişkili iyatrojenik faktörler, dentin kollajen çapraz fibril bağlarında değişikliklere neden olarak endodontik tedavi görmüş dişlerin kırılmasına yol açabilir (3, 4). Bundan dolayı vital pulpalı dişlere göre kök kanal tedavisi görmüş dişlerin biyomekanik başarısızlığa sahip olma olasılığı daha fazladır (5). Bu risklerin kontrol edilebilmesi ve büyük koronal kayıp ile dişlerin yapısal bütünlüğünü iyileştirmek için farklı materyaller ve restoratif yöntemler önerilmiştir (6).

Kök kanal tedavisinde giriş kavitesi açılırken pulpa odasının tavanında bulunan dentinin kaldırılmasıyla dişin yapısal bütünlüğü bozulur ve çiğneme esnasında kırıklara yol açabilir. Endodontik giriş kavitesi dişin kırılma direncinin %5 oranında azaltırken, dişin marjinal sırtlarının kaybı dişin kırılma direncinin %60 oranında azalttığı çalışmalarda gösterilmiştir (7). Distal çürüklü üst birinci büyük azı dişlerinde yapılan bir çalışmada meziopalatinal tüberkülden distobukkal tüberküle uzanan çapraz sırt korunmuş ve endodontik giriş kavitelerine yükleme altında mekanik test uygulanıp sonlu elemanlar analiziyle –SEA- yapılan değerlendirme yapılmıştır. Çalışmada çapraz sırtın korunduğu dişlerde direncin arttığı gözlenmiştir. Oliviera ve ark. yaptığı bir çalışmada, kök kanal tedavisi yapılmış premolar dişlerde preperasyon işlemlerinden sonra koronal diş dokusu azaldıkça kırılma riskinin arttığı rapor edilmiştir (8).

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Bölüm 2

GÜLÜMSEMENİN DEĞERLENDİRİLMESİNDE BİLİMSEL PARAMETRELER

Işıl SARIKAYA[1]

GİRİŞ

Lombardi, diş estetiğini "görsel algı" olarak değerlendirmiş ve bunun oran ve kompozisyondan oluşan iki parametresi olduğunu ileri sürmüştür. Oran, iki farklı nesne arasındaki belirli ölçütü ifade eder. Pisagor teoreminden yola çıkarak bulunmuş olan altın orana göre bir yüzeyin oluşturulması, ona estetik görüntü sağlamaktadır (1). Düzgün ve genel formlarda diş şekli ve yerleşimine sahip bireylerde anterior dişlerin karşıdan bakıldığında meziodistal boyutlarında altın oran görülmektedir (2). Kişinin dinlenme pozisyonunda üst çene kesici dişlerinin görünüm miktarı ideal olarak erkeklerde 1,91 mm iken bu değer kadınlarda yaklaşık 3,4 mm olarak belirlenmiştir. Alt çene kesici dişlerin görünürlüğü ise erkeklerde kadınlardan daha fazladır. Üst anterior dişlerin görünürlüğü hastaya genç bir görüntü sağlamaktadır. Yaşın ilerlemesiyle birlikte kaslarda görülen zayıflama sonucu üst keserlerin görünürlüğü azalırken mandibular keserlerin görünürlüğü artar. Bu değişiklik yaşlı görünüme neden olmaktadır (3).

Dişlerin uzunluğu kadar genişliğinin de estetik görünüm için önemi büyüktür. Dişe ait bu iki parametre arasında orantı olması gerekmektedir. Alt anterior dişlerin meziodistal uzunluk toplamının üst anterior dişlerin mesiodistal uzunlukları toplamına oranı 4/5 olmalıdır. Anterior dişler arasındaki boyut farkı özellikle yüksek gülme hattına sahip bireylerde estetik olmayan görüntü oluşturmaktadır (4).

Estetik gülümseme kriterleri kesin çizgilerle belirlenmemiş olsa da gülümseme arkının uyumlu olması, dişeti görünürlüğünün minimum seviyede olması, üst çene santral dişlerin ideal boy ve genişlikte olması ve komissuraların simetrik elevasyonu gibi etmenler gülümseme estetiğinde istenilen bileşenlerdir (5). Diş etinin fazla görünmesi, alt anterior dişlerin görünürlüğünün az olması, orta hat

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istatiksel anlamlı fark bulunmuştur fakat bu farkın klinik değerlendirmede değerli olmadığı belirtilmiştir (56).

SONUÇ

Gülümseme öznel bir davranıştır ve bireye özgüdür. Güzel algılama konusunda ise bireyin etkisinde kaldığı çevresel etmenler, sosyoekonomik statüsü ve hayata yaklaşımı belirleyici olmaktadır. İnsanların gülüşlerini etkileyen faktörlerin en belirleyicisi şüphesiz dişlerdir. Dental tedavinin, hastanın gülümsemesi, görünümü, kendine güveni ve psikolojisi üzerindeki olumlu etkileri de göz önünde bulundurulduğunda hekimin hastası için en ideal gülüşü tasarlaması tedavi başarısı yanında üst düzey hasta memnuniyeti sağlayacaktır.

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Bölüm 3

TÜM YÖNLERİYLE BRUKSİZM

Işıl SARIKAYA[1]
Mümine KONU[2]

GİRİŞ

Bruksizmin tanımına bakıldığında; çiğneme harekeleri haricinde görülen normal olmayan diş sıkma hareketidir. Protetik terimler sözlüğüne göre ise 'dişlerin parafonksiyonel şekilde sıkılması' olarak tanımlanmaktadır.

Bruksizm sonucu dişlerde doku kayıpları oluşur. Ve yine dişlerde mobilite ve periodontal destek dokularında bruksizm şiddetine bağlı kayıplar görmek mümkündür. Çiğneme kasları ve temporomandibular eklem ile ilişkili bölgelerde bazen sesin de eşlik ettiği ağrı görülebilir. Çiğneme kasları değerlendirildiğinde, hipertrofi en çok masseter kasındadır. Hipertrofiye uğrayan masseter kası tek taraflı ya da çift taraflı olarak asemptomatik hacim artışı gösterir. Bruksizm teşhis edilirken hastadan alınan anamnez ile birlikte ağız içi kontrol ve eklem, kas kontrolü birleştirilir. Görüntüleme cihazları kullanılabilir. Klinikte bruksizmli bir hastaya uygulanan tedavilerde, bruksizmin varlığı mutlak suretle göz önünde bulundurulur ve dokulardaki yıkıcı etkisi değerlendirilerek tedavisinde modifikasyonlar yapılır. Bu durumdan dolayı bruksizmin teşhisi, dokulara etkisi ve tedavisi oldukça önemlidir.

BRUKSİZMİN TANIMI

Bruksizm genelde uykudayken veya gün içinde stresliyken güçlü çene hareketlerine bağlı, çeneleri sıkma hareketidir. "Protez Terimleri Sözlüğü"nde (2003) bruksizm;

1. Dişlerin parafonksiyonel bir şekilde gıcırdatılması
2. Çiğneme hareketlerinden farklı olarak, diş sıkma istemsiz olarak, ritmik hareketlerle görülen ve okluzal travmaya neden olan alışkanlık olarak tanımlanır.

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varlığının saptanması gerekse konservatif yöntemlerle ilerlemesinin önlenmesi dental sağlığın sürdürülmesi için elzemdir.

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Bölüm 4

ENDODONTİDE NİKEL- TİTANYUM EĞELER

Hüda Melike BAYRAM[1]

GİRİŞ

Endodontik tedavinin amacı; kök kanal sisteminin temizlenmesi, formuna uygun şekillendirilmesi, dezenfeksiyonu ve üç boyutlu olarak hermetik bir şekilde doldurulmasıdır (1). Kök kanallarının şekillendirilmesi, endodontik tedavinin başarısına etki eden önemli aşamalardan birini oluşturmaktadır (2). Şekillendirme ve irigasyondan oluşan kök kanal preparasyonu ile kanaldaki tüm vital ve organik dokunun bir miktar sert dokuyla beraber kanaldan uzaklaştırılması amaçlanmaktadır (3).

Kök kanallarının genişletilerek şekillendirilmesi, endodontik tedavinin başarısına etki eden en önemli aşamalardan birisidir. Hülsmann ve ark. (4) mekanik preparasyon ile elde edilmek istenen hedefleri aşağıdaki şekilde özetlemişlerdir:

1. Kanal içindeki vital ve nekrotik dokuları uzaklaştırmak.
2. İrrigasyon ve medikasyon için yeterli alan yaratmak.
3. Apikal kanal anatomisinin lokalizasyonu ve bütünlüğünü korumak.
4. Kök kanal sistemi ve kök yapısına iyatrojenik hasar vermekten sakınmak.
5. Kanal doldurma işlemini kolaylaştırmak.
6. Periradiküler dokuların irritasyonu ve/veya enfeksiyonundan sakınmak.
7. Dişin, uzun dönem ağız içinde fonksiyonuna izin verecek yeterli miktarda kök kalınlığını bırakmak.

Kanal preparasyonu için önceleri karbon çeliğinden yapılan aletler kullanılmaktaydı. Günümüzde ise paslanmaz çelik ve nikel-titanyum alaşımdan yapılan aletler kullanılmaktadır. Çeşitli çalışmalar paslanmaz çelik aletlerle kanalda oluşan transportasyonu ve düzleşmeyi rapor etmişlerdir (5). Ayrıca paslanmaz çelik aletlerin yeterince esnek olmayışı üreticileri endodontik alet yapımı için yeni materyaller arayışına itmiştir (6).

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WaveOne tam sıralı resiprokasyon aletler ile ProTaper Universal aletleri (144° CW and 72° CCW) ve tam sıralı rotasyon hareketi yapan ProTaper Universal aletleri yapay kanallarda karşılaştırmıştır. Yazarlar, tam sıralı resiprokasyon ile ProTaper Universal aletlerin kanal kurvatürünün düzleşmesi açısından aynı aletlerin rotasyon ile kullanımından veya WaveOne aletlerden daha üstün olduğu sonucuna varmışlardır (47).

SONUÇ

Adaptif hareket rotasyon ve resiprokasyon hareketlerinin olumlu özelliklerini birleştirmeyi amaçlayan yeni bir modifiye resiprokasyon hareketidir. Literatür, döngüsel yorgunluk açısından ve dolum materyalinin uzaklaştırılmasında basit rotasyon hareketine karşı birçok avantajı olan adaptif hareketi önermektedir. Eğe üzerindeki aksiyal stresi azaltmak ve debris uzaklaştırmasını arttırmak açısından asimetrik hareket avantajlı görünmektedir. Resiprokasyon hareketi ile ilgili çalışmaların çelişkili bulguları farklı alet kullanımına bağlı olabilir. Bu nedenle farklı alet kinematiklerini değerlendirmek için aynı tasarıma, aynı alaşım özelliklerine ve aynı çalışma prensibine sahip aletler ile standardizasyon sağlanıp ileri çalışmalar yapılmalıdır.

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Bölüm 5

ORTOGNATİK CERRAHİNİN TEMPOROMANDİBULAR EKLEM ÜZERİNDEKİ BİYOMEKANİK ETKİLERİ

Tolgahan KARA[1]

GİRİŞ

Ortodontik tedaviyle kombine uygulanan ortognatik cerrahi prosedürler, ileri seviyede dişsel ve iskeletsel deformitesi olan bireylerde iskeletsel pozisyon anomalilerini ve buna bağlı oklüzal düzensizliklerin giderilmesinde kullanılan tedavi yöntemleridir. Mandibular bilateral sagittal split osteotomisi ve maksiller Le Fort I osteotomisi bu amaçla en yaygın kullanılan cerrahi tekniklerdir (1). Ortognatik cerrahinin temel amacı çene fonksiyonlarının, havayolunun ve yüz estetiğinin iyileştirilmesi olarak özetlenebilir (2). Bununla birlikte ortognatik cerrahi esnasında mandibular kondilin glenoid fossa içerisinde doğru bir şekilde konumlandırılması daima cerrahları zorlayan bir konu olmuştur. Kemik fragmanlarının doğru hizalanması, proksimal segmentin yeniden konumlandırılması, kemik segmentlerinin fiksasyonunda kullanılan yöntem, kasların ve çevre yumuşak dokuların gerilimsiz bir şekilde dengede olması ve cerrahın deneyimi gibi pek çok farklı faktör mandibular kondilin pozisyonu üzerinde belirleyici role sahiptir (3). Postoperatif kondiler pozisyon cerrahi stabilite açısından belirleyici olduğu kadar remodelling süreçleri vasıtasıyla kondiler morfolojide de değişikliklere yol açmaktadır (4). Dolayısıyla ortognatik cerrahinin istenmeyen sonuçlarından birisi olan kondiler rezorbsiyonu anlayabilmek için ortognatik cerrahinin temporomandibular eklem (TME) üzerindeki biyomekanik etkilerinin detaylı bir şekilde incelenmesi gerekmektedir.

TEMPOROMANDİBULAR EKLEMİN YAPISAL BİLEŞENLERİ

TME, mandibula ile temporal kemik arasında meydana gelmiş bilateral bir eklemdir. Hem menteşe hem de kayma hareketi yapmasından ötürü ginglymoartroidal eklem olarak sınıflandırılmaktadır. TME kompleksi şu

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araştırmacılar geriletme sonrası kondil ve ramus yüksekliğinde azalma olduğunu göstermişlerdir (15, 16, 20). Fakat kondilde gözlenen bu değişikliklerin klinik olarak anlamlı olmadığı dikkat çekmektedir.

Bilgisayar modellemelri üzerinde yapılan çalışmalarda mandibular prognatizmli hastalarda preoperatif dönemde TME'de anormal stres seviyeleri olduğu, geriletme ameliyatı sonrasında bu değerlerin normale döndüğü gösterilmiştir (22). Ma ve ark.'nın (23) 2020'de yaptıkları bir başka sonlu eleman analizinde mandibular prognatizmli bireylerde TME'de oluşan streslerin normal eklemlerdekinde çok daha yüksek olduğu ancak ortognatik cerrahi sonrası azalma gösterdiği ve ağrı gibi temporomandibular eklem düzensizliği semptomlarında gerileme sağladığı bulunmuştur.

SONUÇ

Sonuç olarak ortognatik cerrahi prosedürler uygun çene ilişkileri, çiğneme fonksiyonu ve estetik sonuçlarının yanı sıra TME'de de bir takım morfolojik ve biyomekanik değişikliklere yol açmaktadır. Bu durum mevcut temporomandibular eklem düzensizliklerini şiddetlendirebileceği gibi eklem şikayetlerinde azalmayı sağlayabilmektedir. Dolayısıyla ortognatik cerrahi öncesi planlama bir kez daha önem kazanmaktadır. Sınıf II hastalarda cerrahi sonrası TME değişikliklerinin daha şiddetli olabileceği unutulmamalıdır. Bu hastaların cerrahi sonrası stabiliteleri daha az olmakla birlikte kondiler rezorbsiyon görülme sıklığı da daha yüksektir. Deformitenin tipinden bağımsız olarak kemik segmentlerin aşırı hareketinden kaçınılmalı, gerekirse cerrahinin kapsamı genişletilerek çift çene prosedürleri uygulanmalıdır. Ayrıca ortognatik cerrahi hastaları olası nüks ve TME düzensizlikleri açısından yakından takip edilmelidirler.

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Bölüm 6

TROMBOSİTTEN ZENGİN FİBRİNLE AĞIZ, DİŞ VE ÇENE CERRAHİSİNDE BAŞARI: GÜNCEL YAKLAŞIMLAR

Esengül ŞEN[1]
Nursena ÜNLÜ KUZU[2]

GİRİŞ

Trombositler, içerdikleri büyüme faktörleri sayesinde hemostaz ve yara iyileşmesinde kritik bir rol oynarlar. Aktive olduklarında, yara bölgesine hızla ulaşarak pıhtılaşmayı başlatır ve büyüme faktörleri, sitokinler ile kemokinler salgılarlar (1). Trombositten zengin fibrin (TZF) uygulamaları, yüksek trombosit konsantrasyonu sayesinde yara iyileşmesini hızlandırır ve enfeksiyon riskini azaltır. TZF, içerdiği büyüme faktörleri ve anti-enflamatuar bileşenler sayesinde hücre yenilenmesini artırır, kollajen üretimini teşvik eder ve enfeksiyonla mücadelede etkili olur (2).

Bu nedenle, TZF gibi trombositten zengin kan ürünleri, yara iyileşmesini hızlandırmak, rejenerasyonu desteklemek, hemostazı sağlamak ve enfeksiyonu önlemek amacıyla tıp alanında yaygın olarak kullanılmaktadır (3).

Trombositler, megakaryositlerin sitoplazmik parçalarından oluşur ve yaklaşık 2 mikrometre çapında olup yuvarlak veya oval şekillidirler (4). Kemik iliğinde üretilen trombositler, çekirdeksizdir ve ortalama 8-10 gün yaşam süresine sahiptir. Bu süre sonunda makrofajlar tarafından apoptoza uğratılırlar. Yüzeylerindeki glikoproteinler sayesinde sağlıklı endotele tutunmazken, hasarlı endotel yüzeyine bağlanabilirler. Trombositlerin fizyolojik görevleri arasında **adezyon** ile hücre yüzeylerine yapışma, **aktivasyon** sayesinde hasarlı dokulardaki glikoproteinlere bağlanma, **agregasyon** ile trombositlerin birbirine tutunarak kümelenmesi ve **sekresyon** yoluyla büyüme faktörleri ile sitokinlerin salınımı yer alır (5). Bu mekanizmalar, trombositlerin hemostatik tıkaç oluşumunu sağlamasını ve yara

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sıra bu biyomateryalin potansiyel önemine dair daha fazla araştırmaya ihtiyaç duyulmaktadır. Bu ikinci nesil trombosit konsantrasyonunun faydalarını tam anlamıyla ortaya koyabilmek için ileri düzeyde çalışmalar gereklidir.

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Bölüm 7

ORAL MUKOZADAKİ BEYAZ LEZYONLAR

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GİRİŞ

Oral beyaz lezyonların teşhisi oldukça zor olabilir. Bu lezyonlar farklı etiyolojiye ve çeşitli prognozlara sahip lezyonların geniş spektrumunda yer almaktadır. Beyaz lezyonların teşhisi iyi huylu reaktif lezyonlardan daha ciddi displastik ve karsinomatöz lezyonlara kadar değişmektedir. Bu lezyonları ayırt etmeye yardımcı olan bazı klasik özellikler olsa da, benzer özellikler teşhiste komplikasyonlar oluşmasına neden olabilir. Daha ciddi prognoz gösteren lezyonlara sahip hastaların teşhisinde zaman kaybetmemek için çaba sarf etmek gerekmektedir. Oral lezyonlar ülserasyonlu, pigmentasyonlu, ekzofitik lezyon içeren ve kırmızı-beyaz lezyonlar olarak sınıflandırılırlar (1). Beyaz lezyonlar oral lezyonların sadece %5'ini oluştursa da, lökoplaki, liken planus ve proliferatif verrüköz lökoplaki gibi lezyonların bazılarında %0,5-100 kadar yüksek malign potansiyel oranı bulunmaktadır (2). Oral beyaz lezyonlar kalınlaşmış keratoz tabakadan, mantar enfeksiyonlarından veya kostik kimyasalların birikmesinden kaynaklanmaktadır. Lokal sürtünme ile oluşan tahriş, immünolojik reaksiyonlar veya premalign veya malign transformasyon gibi daha önemli süreçler; keratin tabakanın kalınlaşmasına neden olmaktadır. Oral beyaz lezyonların oluşmasına neden olan diğer faktörler ise kronik fiziksel travmalar, sigara kullanımı, genetik hastalıklar, mukokütanöz anomaliler veya inflamatuar reaksiyonlardır (3). Lezyonların tedavisinde hastaya yapılacak detaylı muayene ve hastadan alınacak anamnez önem taşır. Lezyonların ne zaman oluştuğu, nasıl ortaya çıktığı, lezyonun görünümünde bir değişim olup olmadığı gibi sorular hastalığın teşhisi için önemlidir (4). Oral mukozadaki beyaz lezyonların görünümleri, keratin

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histopatolojik özellikleri, ne zaman ve nerede ortaya çıktığı dikkatle göz önünde bulundurulmalıdır. Doğru bir teşhis sonrası uygun yöntemlerle tedavi ve takip planlamalarının düzenlenmesi gerekmektedir. Diğer dokulara oranla malign dönüşüm olasılığı yüksek olan premalign lezyonların erken teşhisi ve tedavisi, özellikle çocukluk çağındaki bireylerde malign dönüşüm riskini oldukça azaltmakta, ileriye yönelik diğer tedavileri kolaylaştırmakta ve daha basit yöntemler ile tedavi edilmesini sağlamaktadır.

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Bölüm 8

POSTERİOR KOMPOZİT REZİN RESTORASYONLAR

Hüseyin HATIRLI[1]

GİRİŞ

Anterior bölgedeki direkt restorasyonlarda ilk tercih olarak kullanılan kompozit rezinler, günümüzde estetik bölgenin dışında kalan, hatta konuşma sırasında görülmeyen ve fonksiyonun daha fazla ön planda olduğu posterior dişlerin restorasyonunda da yaygın bir şekilde kullanılmaktadır. Son yıllarda hastalar, klinisyenlere uygulanacak restorasyonun metal renginde mi yoksa diş renginde mi olacağı konusunda sorular sormakta ve estetik görünümünden dolayı diş rengindeki restoratif materyalleri tercih ettiklerini belirtmektedir. Kompozit rezinlerin posterior dişlerin restorasyonunda başarılı olduğu uzun süreli klinik çalışmalarda gösterilmiştir.(1, 2) İçeriklerinde ve formülasyonlarındaki sürekli gelişmeler ile kompozit rezinler, estetik görünüm dışında foksiyonel stabilite, kavite preparasyonu sırasında sağlıklı diş dokusunun korunması, diş dokularına adezyon, uygulama kolaylığı, preparasyon sonrasında kalan diş yapısının güçlendirilmesi, düşük ısı iletkenliği ve tamir edilebilme özelliğinin bulunması gibi avantajlara sahiptir.(3-5) Polimerizasyon sırasında büzülme meydana gelmesi ve uygulamanın amalgam restorasyonlara göre yaklaşık olarak iki kat daha fazla süre gerektirmesi kompozit rezin restorasyonlarla ilgili temel problemlerdir.(4)

Posterior kompozit rezin restorasyonların klinik ömrü konusunda bazı şüpheler bulunmasına karşın, klinik çalışmalarda kompozit rezinlerin uzun yıllar başarılı şekilde kullanılmış olan amalgam restorasyonları ile benzer başarı gösterdiği bildirilmiştir.(1, 2, 6) Kompozit restorasyonlar için kavite hazırlanması amalgam restorasyonlara göre daha kolaydır ancak kompozit rezinler çok daha kritik ve dikkatli bir uygulama gerektiren restorasyon basamakları içermektedir.(7) Daha fazla uygulama aşaması, hata yapma riskini arttırmakta ve klinik uygulama süresini uzatmaktadır. Başarılı bir kompozit rezin restorasyon için klinisyenin izolasyon, adezyon ve polimerizasyon büzülmesi konularında bilgi sahibi olması

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içermeyen rezin uygulanmasını ve son olarak kompozit rezinin uygulanması önerilmektedir.(35, 45)

SONUÇ

Kompozit restorasyonlarda başarı büyük oranda, restorasyonda kullanılan her bir materyalin özelliklerinin iyi bilinmesine, uygulayıcının becerisine ve dikkatine bağlıdır. Bunun yanı sıra kavite preparasyonu çoğu zaman göz ardı edilse de, sağlıklı dokuların korunabilmesi ve kompozit rezinlerin polimerizasyonu sırasında oluşan streslerin istenilen şekilde dağıtılmasında önemli yer tutar. Hastaya bağlı faktörlerin de optimal hale getirilmesi ile günümüzde uzun ömürlü ve başarılı posterior direkt kompozit restorasyonlar mümkün olabilmektedir.

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Bölüm 9

DİŞ HEKİMLİĞİNDE BEYAZLATMA UYGULAMALARI

Tuğçe İLDENİZ[1]
Tunahan DÖKEN[2]

GİRİŞ

Estetik diş hekimliği son zamanlarda artan hasta talebine bağlı olarak gelişmiş, popüler hale gelmiştir ve çeşitli tedavi yöntemleri geliştirilmiştir (1). Kompozit restorasyonlar, porselen veneerler, full kronlar, abrazyon ve beyazlatma işlemleri bu yöntemlerden bazılarıdır (2). Beyazlatma, diğer restoratif tedavilere nazaran konservatif bir tedavi seçeneğidir. Beyazlatma için kullanılabilecek farklı mekanizma ve teknik mecvuttur. Ancak tedavi başarısı ve beyazlatmada hangi tekniğin uygulanacağının belirlenmesi için renklenme etiyolojisinin tespiti çok önemlidir (3).

BEYAZLATMANIN TARİHÇESİ

Tarihte 1848 yılında devital dişlerin beyazlatılmasında kalsiyum klorürün kullanılmasıyla beyazlatma tedavisi uygulanmaya başlanmıştır. 1970'lerin sonlarındaysa Nutting, süperoksol kullanmış ve hatta daha sonra süperoksolu sodyum perborat ile beraber kullanarak sinerjik etki elde etmiştir (4-7). 19. yy sonlarında ise potasyum siyanür, sülfüröz asit, oksalik asit, hidrojen dioksit, alüminyum klorür ve sodyum peroksit ihtiva eden birçok beyazlatma maddesi devital diş beyazlatmada kullanılmıştır (8-11).

Vital dişlerin beyazlatılmasına ise 1868 yılında başlanmıştır. Hidrojen peroksit, 1918'de Abbot tarafından "power bleaching" olarak tanımlanan beyazlatma işleminde ışık veya ısı aktivasyonu ile beraber kullanılmıştır. (11-15). 1960'ların sonundaysa Dr. Bill Klusmier kişiye özel plaklarla geceleri uygulanan, %10 karbamid peroksit içerikli Gly-Oksit ajanıyla ev tipi beyazlatma tekniği uygulamıştır (16). Haywood ve Heymann 1989'da gece koruyuculu vital

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Bölüm 10

VİTAL PULPA TEDAVİLERİ VE KULLANILAN MATERYALLER

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GİRİŞ

1756 yılında Philip Pfaff adlı araştırmacı küçük bir altın materyali kullanarak pulpa dokusunun üstünü kapatmış ve pulpa tedavilerinin başlangıç basamaklarından olan pulpa kuafajı konusunda ilk girişimde bulunulmuştur (1). İlerleyen yıllarda birçok araştırmacı konu ile ilgili sayısız çalışmada bulunmasına rağmen materyal eksikliği ve teknik donanım yetersizliğinden dolayı pulpa kuafajına karşı çıkmaktaydı. 1940 ve 50'li yıllarda ise Orban'ın yapmış olduğu çalışmalarda, vücutla aynı doku ve kan hücreleri benzerliği gösteren pulpanın kendini uygun koşullarda iyileştirebileceği şeklindeki açıklaması yeni arayışlara yol açmıştır (1).

Vital pulpa tedavilerinin (VPT) amaçlarından biri dişin canlılığını korumaktır. Bu amaçla kalsiyum hidroksit ($Ca(OH)_2$), kuafaj tedavilerinde uzun yıllardır altın standart olarak kullanılmıştır (2). $Ca(OH)_2$'in sahip olduğu çeşitli olumsuz özellikleriden dolayı, araştırmacıları daha ideal bir kuafaj materyali aramaya sevk etmiştir. Bu amaçla, $Ca(OH)_2$ en büyük alternatif olarak gösterilen ve üzerinde en fazla çalışma yapılan materyaller; MTA, Theracal, Biodentin vb. kalsiyum silikat içerikli materyallerdir (3). Bunun haricinde osteojenik ve odontojenik aktiviteyi arttırıcı etkilerinden dolayı bazı hormonlar, antibiyotikli ve steroidli patlar, büyüme faktörleri, propolis gibi fenolik bileşikler kuafaj materyali olarak denenmiştir (4-7).

Bu derleme, VPT ve kullanılan kuafaj materyalleri ile ilgili mevcut literatürü gözden geçirmeyi ve karşılaştırmayı amaçlamaktadır.

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Bölüm 11

ORTODONTİDE DİŞ HAREKETİ VE DİŞ HAREKETİ HIZLANDIRMA YAKLAŞIMLARI

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1.GİRİŞ

Ortodontik diş hareketi, disiplinler arası bir araştırma alanı olan biyoloji, biyokimya ve diş hekimliğinin kesişiminde yer alır. Dişlerin istenilen pozisyonlara doğru güvenli ve etkili bir şekilde hareket etmesini sağlayan bu süreç, yüzeysel olarak basit gibi görünse de altında yatan moleküler olaylar oldukça karmaşıktır. Ortodontik kuvvetlerin uygulanmasıyla başlayan diş hareketi, dişleri çevreleyen periodontal ligamentin ve alveoler kemiğin reorganizasyonuna yol açar. Bu reorganizasyon, osteoblast ve osteoklast hücrelerinin düzenlenmesi, inflamatuar yanıtın tetiklenmesi ve çeşitli biyokimyasal yolların aktivasyonu gibi bir dizi karmaşık biyolojik olayı içerir.

Ortodontik tedavi ortalama 2 yıl süren (1), hasta ve hekimin uyum içinde olması gereken bir tedavidir. Tedavinin uzunluğu ortodontistleri diş hareketinin biyokimyasını daha çok anlamaya ve bunun sonucunda tedaviyi hızlandırmak için çeşitli araştırmalar yapmaya sevk etmiştir. Günümüzde tedavi süresi konusunda hasta beklentilerinin artması, her ortodontistin ortodontik diş hareketinin biyokimyası hakkındaki temel süreçlere hâkim olmasını gerektirir.

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gerektirdiğinden, çeşitli çalışmalar düşük seviyeli lazer tedavisinin (LLLT) ağrının giderilmesi (113), inflamasyon kontrolü (114) ve ortodontik diş hareketi sırasında kemik rezorpsiyonu ve aposisyonunun modülasyonu üzerindeki etkisini araştırmıştır (115). Düşük seviyeli lazer tedavisi ile fotobiyomodülasyon, günümüzde en umut verici yaklaşımlardan biridir. Minimum rahatsızlık içeren ve uyuşturucu etkileşimleri ve yan etki riski olmayan, güvenli ve nispeten invaziv olmayan bir tekniktir (116). Literatür, LLLT tedavisinin, sıkıştırma bölgesinde osteoklast sayısını artırarak ve ardından kemik rezorpsiyonunu artırarak diş hareketini hızlandırabileceğini, ancak gerginlik bölgesinde kemik oluşumunu ve hücresel proliferasyonu teşvik edebileceğini bildirmektedir (114).

SONUÇ

Ortodontik diş hareketini hızlandırmak amacı güden cerrahi ve cerrahi olmayan teknikler ortodontistler tarafından birçok kez kullanılmıştır. Cerrahi olmayan yaklaşımlar noninvaziv olmaları nedeniyle ortodontistler ve hastalar tarafından her zaman tercih edilmiştir. Bu tür teknikler, biyolojik moleküllerin sistemik/lokal olarak uygulanmasından rezonans titreşimi, manyetik kuvvetler, döngüsel kuvvetler, hafif elektrik akımları, düşük yoğunluklu lazer ışınlaması ve fotobiyomodülasyon gibi yenilikçi fiziksel stimülasyon teknolojilerine kadar uzanır. Tüm bu yöntemler, değişen başarılarla olumlu sonuçlar göstermiştir. Tüm bu yöntemlerin klinik etkinlikleri belirlenmeye devam etmektedir ve kliniklerce geniş benimsenme gerçekleşmeden önce daha fazla bilimsel kanıta ihtiyaç duyulmaktadır.

Not: *Bu eser Feyza Doğan Yar'ın Eyüp Burak Küçük danışmanlığındaki "Ortodontik Diş Hareketin Biyokimyası" isimli uzmanlık eğitimi seminerinden üretilmiştir.*

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Bölüm 12

VERTİKAL ALVEOLAR KEMİK AUGMENTASYONU TEKNİKLERİ

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GİRİŞ

Çeşitli cerrahi teknikler ve biyomalzemeler, rezorbe olmuş alveolar kemikte dental implantların başarılı bir şekilde yerleştirilmesini mümkün kılmak amacıyla geliştirilmiştir. Bu amaçla birden fazla kemik grefti tekniği, doğal ve sentetik greft malzemeleri test edilmiştir. Hayvan deneyleri umut verici sonuçlar rapor etse de, dikey kemik augmentasyonu prosedürleri klinik uygulamalarda yüksek oranda başarısızlık yaşamaktadır. Başarısızlığın başlıca nedenleri, yetersiz kemik augmentasyonu, yumuşak doku enkleftasyonu ve kötü kan akışı nedeniyle greftin küçülmesidir. Granülasyon dokusu oluşumu ve yeterli kemik kallus oluşumunun eksikliği genellikle greft istikrarsızlığı, greft malzemesinin oral çevreye maruz kalması ve enfeksiyon nedeniyle oluşur .Greftin yetersiz veya gecikmiş vaskülarizasyonu, genellikle kan akışı ile kemik resorpsiyonu oluşumu arasında uyumsuzluğa yol açarak öngörülemeyen kemik augmentasyonuna neden olabilir. Bu derleme kitap bölümünde, dikey alveolar kemik augmentasyonu sağlamak için şu anda mevcut olan çeşitli teknikler tartışılmaktadır.

Dental implantların uzun vadeli başarısı, yeterli ve sağlıklı kemikte osseointegrasyon derecesine büyük ölçüde bağlıdır (1). Ancak, diş kaybı sonrasında implant yerleştirilmeden önce uzun süre beklenmesi, periodontitis veya travma gibi nedenlerle kemik hacmi sıklıkla azalır (2). Diş çekimini takiben, alveoler kemikte ortalama olarak **1,5–2 mm (vertikal)** ve **%40–50 (horizontal)** oranında kayıp, ilk 6 ay içinde meydana gelir (3,4). Vertikal ve horizontal kemik yüksekliğindeki bu kayıp, cerrahi zorluklar ve anatomik sınırlamalar nedeniyle dental implantların yerleştirilmesinde büyük zorluklar yaratır (1) .(Şekil 1) Yeterli kemik hacmi ve yüksekliği sağlanamadığında, bu durum nihai tedavi sonucunu olumsuz etkileyerek implantın başarısını ve uzun ömürlülüğünü riske atar (1,5).

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SONUÇ

Dikey alveolar kemik augmentasyonu sağlamak için kullanılabilecek çok sayıda teknik mevcuttur. Klinik uygulamalarda seçilecek tek bir ideal teknik yoktur; bunun yerine, sırt rekonstrüksiyonu için bireyselleştirilmiş yaklaşımlarda kullanılacak giderek artan yöntem bulunmaktadır. Daha az invaziv, daha tekrarlanabilir ve daha az teknik hassasiyet gerektiren dikey kemik augmentasyonu prosedürleri içeren tedavi protokollerinin, kemik rejenerasyonu tedavilerindeki yeni gelişmeler ışığında sürekli olarak gözden geçirilmesi gerekmektedir.

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