Bölüm 5

ENDODONTİK ENSTRÜMANLARDA KİNEMATİK

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GİRİŞ

Endodontide modern çağın, nikel-titanyum (NiTi) alaşımının endodontik enstrümanların üretiminde tercih edilen malzeme olarak kullanılmaya başlanmasıyla başladığı söylenebilir (1). O andan itibaren, endodonti anlayışı önemli ölçüde değişti, ancak temel prensipleri aynı kaldı ve çoğunlukla üç temel süreçte özetlenebilir: 1) Bakterilerin mümkün olduğunca azaltılmasını sağlamak için kök kanal sisteminin kemo-mekanik olarak dezenfekte edilmesi; 2) Kalan bakterileri gömmek ve endodontik sistemi periapikal dokulardan izole etmek için stabil bir kök kanal dolgusu elde etmek; 3) Kök kanal sisteminin ikincil enfeksiyonlarını önlemek için stabil bir koronal restorasyon elde etmek olarak öne çıkmaktadır (2).

Neredeyse tamamen paslanmaz çelik manuel enstrümanların yerini alan NiTi döner enstrümanların yaygın kullanımı, temel olarak süper esneklik ve şekil hafıza etkisini içeren NiTi alaşımının en karakteristik bu iki özelliğinden ortaya çıkmıştır ve yıllar geçtikçe NiTi alaşımları endodontik tedavide vazgeçilmez materyaller haline gelmiştir. Metalurjideki teknolojik gelişmelerle birlikte üreticiler gelişmiş özelliklere sahip enstrümanlar üretmeye yöneldiler. Bu gelişmelere paralel olarak endodontik motorlarda tork kontrolü ve farklı yönlere ayarlanabilen kinematikler açısından gelişmeler yaşanmıştır. Bu bölüm, enstrümantasyon kinematiğindeki gelişmelere genel bir bakış sunmaktadır.

1. ENDODONTİK MOTORLA ÇALIŞAN ENSTRÜMANLARDAKİ HAREKET MEKANİZMALARININ GELİŞİMİ

Endodonti alanı yıllar içinde NiTi döner enstrümanların ve motorların üretim yönteminde devrim yaratan önemli gelişmelere tanık oldu (3, 4). NiTi alaşımının motorla çalışan döner veya ileri geri hareket eden enstrümanların imalatında

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