Bölüm 11

KAS İSKELET SİSTEMİ HASTALIKLARINDA OZON KULLANIMI

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GİRİŞ

Ozon (O_3), ilk kez 1839 yılında Christian Friedrich Schönbein tarafından izole edilmiş siklik bir yapıya sahip üç oksijen atomundan oluşan bir moleküldür(1). O_3 doğada stratosferde bulunur, ancak iki atomlu oksijenin (O_2) yüksek voltajlı bir elektrik deşarjına maruz bırakılmasıyla yapay olarak da üretilebilir ve karakteristik bir kokusu vardır. Ozon gaz halinde renksiz görünmektedir (2,3). İlk defa 1916 yılında, Birinci Dünya Savaşı sırasında, Londra›daki Queen Alexandra Askeri Hastanesinde yara iyileşmesinde antimikrobiyal özellikleri nedeniyle kullanılmıştır(4). O zamandan beri O_3, belgelenmiş minimal yan etkileri ve farklı tıbbi alanlarda terapötik bir role işaret eden bazı bulguları ile 100 yılı aşkın süredir tıbbi olarak kullanılmış ve kapsamlı bir şekilde çalışılmıştır. O_3 tedavisi, 19. yüzyılda Nikola Tesla tarafından patenti alınan ilk O_3 jeneratörü ile tıbbi tedavi olarak tanıtılmıştır(5). Spesifik ve sertifikalı O_3 jeneratörlerinin piyasaya sürülmesi ile edilen O_3'ün yüksek reaktivitesine bağlı aşırı oksidatif strese neden olması ve yaratığı toksisite nedeniyle tedavide oksijen ozon (O_2-O_3) karışımı kullanılmaktadır. Günümüzde, O_2 ve O_3'ten oluşan bu tıbbi karışım (en az %95 O_2 ve en fazla %5 O_3) tıbbi bir jeneratör tarafından yüksek voltaj gradyanından (5–13 mV) geçen saf O_2'den üretilmektedir, ancak ne yazık ki O_3'ün yüksek kararsızlığı nedeniyle depolanamamaktadır(6,7).

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haftada 1-2 kez uygulama tercih edilmelidir(15). Ulusoy ve ark., konvansiyonel tedaviye yanıt vermeyen lateral kronik epikondilitten etkilenmiş hastalarda O_2-O_3 enjeksiyon tedavisinden sonra pozitif sonuçlar bildirmiştir (27).

Tetik nokta, kas rüptürleri ve ağrının tedavisinde tercih edilebilen intramusküler ozon yaklaşımları; haftada 1-2 kez 5-15 µg/mL dozunda tüm vücutta maksimum 100 ml olacak şekilde uygulanmalıdır. Hava embolisi riski nedeniyle 100 ml üzerindeki uygulamalardan kaçınılmalıdır. Selülit, nöropatik ağrı ve tetik nokta tedavisinde tercih edildiği gibi akupuntur noktalarına da uygulanabilen subkutan ozon uygulaması ise; 3-5 µg/mL düşük ozon oksijen karışımının 1-2 ml gibi düşük hacimde cilt altına uygulanmasıdır. Total gaz hacmi 80-100 ml geçmemelidir (15).

SONUÇ

Ozon uygulamaları giderek daha fazla kullanılan ve tercih edilen bir tedavi yöntemi olmakla birlikte optimal doz ve güvenlik aralığı açısından ortak bir görüş birliği yoktur (33). Ozon uygulamalarının tek başına etkinlikleri gösterilmiş olmasına rağmen hekimler ozon tedavilerini konservatif tedavinin bir tamamlayıcısı olarak görmeli ve hastalarını tüm yönleri ile değerlendirmelidir.

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