

## TRAVMATİK PERİFERİK SİNİR HASARI VE BRAKİAL PLEKSUS HASARINDA KÖK HÜCRE TEDAVİLERİ

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### GİRİŞ

Periferik sinir yaralanması (PSY), tahmini insidansı yılda 100.000 kişide 13.9-23 olan evrensel bir klinik sorundur.<sup>1-2</sup> Merkezi sinir sistemindeki (MSS) sinirlerin aksine, periferik sinir sistemindeki (PSS) sinirler, sinir yaralanmasını takiben belirli spontan rejeneratif yetenekler kazanır. Buna göre, periferik sinir hasarına bağlı nöropatilerin şiddetleri ve sonuçları genellikle esneklerdir.<sup>3</sup> Hafif PSY olan hastalar iyileşebilirken, ciddi PSY ve uzun sinir defekti olan hastalar sıklıkla motor, duyuşsal ve otonom sinir fonksiyonlarında bozulma yaşar ve periferik sinir onarım ameliyatlarına ihtiyaç duyar. Siyatik sinir, yaralanmalara en çok maruz kaldığı bildirilen periferik sinirlerden biridir. Yaralanma sonrası kas atrofisi, duyuşsal ve motor eksiklikler (parestezi, halsizlik ve felç) ve sürekli ağrı en çok şikayet edilen semptomlardır. Yaralanmanın altında yatan mekanizma ve rejenerasyon sürecini etkileyen faktörler (örneğin, yaralanmanın anatomik bölgesi, tipi ve şiddeti) ne olursa olsun, tam uzuv sakatlığı beklenmemiş gibi acil tedavi eylemleri gerektirir. Nöral yapılar üç kat bağ dokusu ile desteklenir. En derin katman, kollajen liflerinden oluşan ve aksonlar-

la çevrelenmiş olan endonöryumdur. Sinirlerin bütünlüğünün ve elastikiyetinin korunmasında en önemli role sahip olan perinöryum, çok sayıda sinir lifini ve bunlarla ilişkili endonöryumu çevreleyen ikinci tabakadır.<sup>4</sup> Birlikte kan-sinir bariyerini oluşturan kollajen lifleri ve perinöral hücrelerden oluşur. En dıştaki katman, sadece sinir fasiküllerini (interfasiküler epinöryum) çevrelemekle kalmayan, aynı zamanda tüm sinir gövdesini (ekstrafasiküler epinöryum) saran epinöryum olarak adlandırılır.

PSY, özellikle travmatik yaralanması, prognoz ve tedaviye yardımcı olmak için çeşitli sınıflara veya derecelere göre sınıflandırılır. 1943'te Sir Herbert Seddon bir sınıflandırma sistemi tanıttı ve sinir hasarının ciddiyetine, iyileşme süresine ve prognoza dayalı olarak PSY'nin üç sınıfını (nöropaksi, aksonotmezis ve nörotmezis) tanımladı.<sup>5</sup> Genellikle fokal demiyelinizasyon ve/veya iskeminin neden olduğu bir sinir yaralanması olan nöropaksi (sınıf 1), PSY'nin en hafif tipidir.<sup>6</sup> Nöropakside, yaralanan bölgede sinir uyarılarının iletimi bloke edilir, motor ve duyuşsal bağlantı kaybolur, ancak endonöryum, perinöryum ve epinöryum dahil olmak üzere sinir yapısının tüm morfolojik yapıları bozulmadan kalır. Nöropak-

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