Bölüm 4

AKUT İSKEMİK İNMEDE ENDOVASKÜLER REKANALİZASYONA EK OLARAK İNTRAARTERYEL NÖROPROTEKTİF TEDAVİ: LİTERATÜR DERLEMESİ

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GİRİŞ

Her yıl yaklaşık 15 milyon insan iskemik inme geçirmektedir. Amerika Birleşik Devletleri'nde her 40 saniyede bir bir akut iskemik inme(AIS) gerçekleşir. 2015 yılında, birkaç randomize kontrollü klinik çalışma, akut büyük damar tıkanıklığı (LVO) için endovasküler müdahale uygulanan hastalarda klinik sonuçların önemli ölçüde iyileştiğini göstermiştir. Bu çalışmaların sonuçları cesaret verici olsa da, trombektomi ile teknik başarı ve klinik sonuçlar arasında bir uyumsuzluk vardır. Etkin rekanalizasyon oranlarına rağmen, fonksiyonel bağımsızlık oranları yetersiz kalmaktadır. Bu tutarsızlık, büyük olasılıkla, tıkalı bölgeye hızlı ve etkili reperfüzyonla bile, doku ya zaten enfarkte olduğu ya da hücre ölümü yoluna girdiği için birçok hasta hala inme geçiriyor olmasından kaynaklanmaktadır. Bu yıkıcı kaskadı önlemek veya tersine çevirmek için farmakolojik nöroproteksiyon; bir fırsat sunmaktadır. Hayvan araştırmaları, sistemik olarak uygulanan nöroproteksiyonun AIS'de başarılı olduğunu göstermektedir ancak bu, insanlarda nöroproteksiyonu sağlama açısından kanıtlanmamıştır. Artık mekanik trombektomiyi ön plana çıkaran çalışmalara ihtiyaç vardır. İntra arteryel (IA) tedavileri, minimum sistemik etki ile lokal tedaviyi sağlar. Bu çalışmayla AIS'in patofizyolojisini, görüntüleme yöntemlerini, tedavilerini tartışıyoruz ve IA yol ile sağlanan nöroproteksiyon için yeni tedaviler hakkında bir derleme sunuyoruz.

PATOFİZYOLOJİ

Nöroproteksiyon tedavisi ile hedeflenebilecek dört temel iskemik hasar mekanizması olduğu genel olarak kabul edilmektedir.

- Eksitotoksisite: İskemi sırasında adenozin trifosfat (ATP) eksikliği, sodyum / potasyum (Na / K) taşıyıcısının bozulmasına neden olarak hücre depolarizas-

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bolizasyonuna sekonder inme haricinde, bu müdahale akut iskemik inmeli hastaların tedavisi için önerilmemektedir (Sınıf III; Kanıt Düzeyi B). (Önceki kılavuza göre değişmedi)

SONUÇ

Artık AIS tedavisinde gold standart olan mekanik trombektomi ile, İA nöroprotektif stratejilere yönelik araştırmalar artmaktadır. AIS'de nöroproteksiyon için IA terapisi, enflamatuar yanıtı ve serbest radikallerin üretimini azaltmayı, kan-beyin bariyerinin bütünlüğünü teşvik etmeyi ve geri dönüşü olmayan şekilde hasar görmüş hücrelerin değiştirilmesini amaçlamaktadır. Daha önce iskemik inme için incelenen ümit verici nöroprotektif ajanların çoğu, ajanların gerçekten hedef bölgelerine ulaşmasını sağlayan yüksek başarılı reperfüzyon oranları ortamında yeniden gözden geçirilmeyi hak etmektedir. Bu tür maddelerin IA verilmesi, kolaylık (bir kateter zaten karotid arterde bulunur), anında etki, yüksek lokal konsantrasyon, daha düşük sistemik maruziyet ve toksisite ve ilk geçiş metabolizmasından kaçınma gibi çok sayıda çekici avantaj sunar.

Magnezyum sülfat, verapamil, kök hücreler, insan albümini, eritropoietin, soğuk salin ve kombinasyon terapileri gibi umut verici maddeler, klinik öncesi ve hatta bazıları klinik senaryolarda zaten çalışılmıştır(90). İdeal nöroprotektif kokteyl muhtemelen hedeflenen hipotermi ile soğuk salin kombinasyonundan ve iskemik hasar ve reperfüzyon hasarı kademesine sinerjik bir şekilde saldırabilen ve inme müdahalesinde reperfüzyondan hemen sonra doğrudan hedef iskemik bölgeye verilen birkaç ilaç kombinasyonundan oluşacaktır (90). Bu nöroprotektif stratejiler, preklinik modellerde umut vaadeden sonuçlarla, insanlarda da değerlendirilmeye başlanmıştır.

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