BÖLÜM 36

YENİDOĞAN ENSEFALOPATİLERİ

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GLİKOZ METABOLİZMASI

GİRİŞ

Umblikal kordon klemplendiğinde ve maternal glikoz desteği sona erdiğinde yenidoğan glikoz regülasyonuna başlar. Bu regülasyon kompleks metabolik ve hormonal süreçlerle sağlanır. Bu süreçlerin yetersiz matürasyonu sebebi ile regülasyon doğum sonrası kısa sürede sağlanamayabilir ve plazma glukoz düzeyi normal aralıkta tutulamayabilir. Yenidoğanın plazma glikoz konsantrasyonuna dair net bir normal aralık tanımlanamadığı için glikoz homeostazının kontrolü ayrıca zordur.[1]

Fetal plazma glikoz konsantrasyonu maternal konsantrasyonun %80 kadarıdır. [2] Doğumdan sonra maternal glikoz desteği sona erdiğinde glikoz ve diğer substratların üretim ve kullanımı için glikojenoliz, glikoneogenez, glikojenez, lipoliz, ketogenez devreye girer.

HİPERGLİSEMİ

Genellikle plazma glukoz konsantrasyonunun 150 mg/dl üzerinde olması hiperglisemi olarak tanımlanır. [3] Azalmış insülin yanıtına bağlı olarak düşük doğum ağırlıklı yenidoğanlar ve pretermler hiperglisemi için en yüksek riskli gruptur. Ayrıca cerrahi prosedürler veya sepsise bağlı neonatal stres, parenteral beslenme gibi durumlar da hiperglisemi riskini arttırır. Düşük doğum ağırlıklı hastalarda hiperglisemi ilişkili evre 3-4 intraventriküler kanama, hastane yatış süresinde uzama ve hatta mortalite bildirilmiştir. [3,4,5]

Neonatal diabetes mellitus hayatın genellikle ilk altı ayında ortaya çıkan nadir (1/90000) bir monogenik diyabet kliniğidir. KCNJ11, ABCC8 ve INS mutasyonları en sık neden olan mutasyonlardır.

Neonatal diabetes mellitus saptanan hastaların yarısı geçici ya da kalıcı infüzyon replasmanlarına ihtiyaç duyar. 6q24 mutasyonu olan hastalarda oral sülfonilüreye geçiş de mümkün olabilmektedir. [6,7]

Hiperglisemi genellikle asemptomatiktir ancak osmotik diüreze bağlı dehidratasyon, kilo kaybı, büyüme geriliği, ateş, glikozüri, ketozis ve metabolik asidoz görülebilir.

Kısa süreli ve ılımlı hiperglisemi, glukoz perfüzyon hızı düşürülerek düzeltilebilir. Özellikle plazma glukoz konsantrasyonu 200-250 mg/dl üzerinde seyretmeye devam ederse

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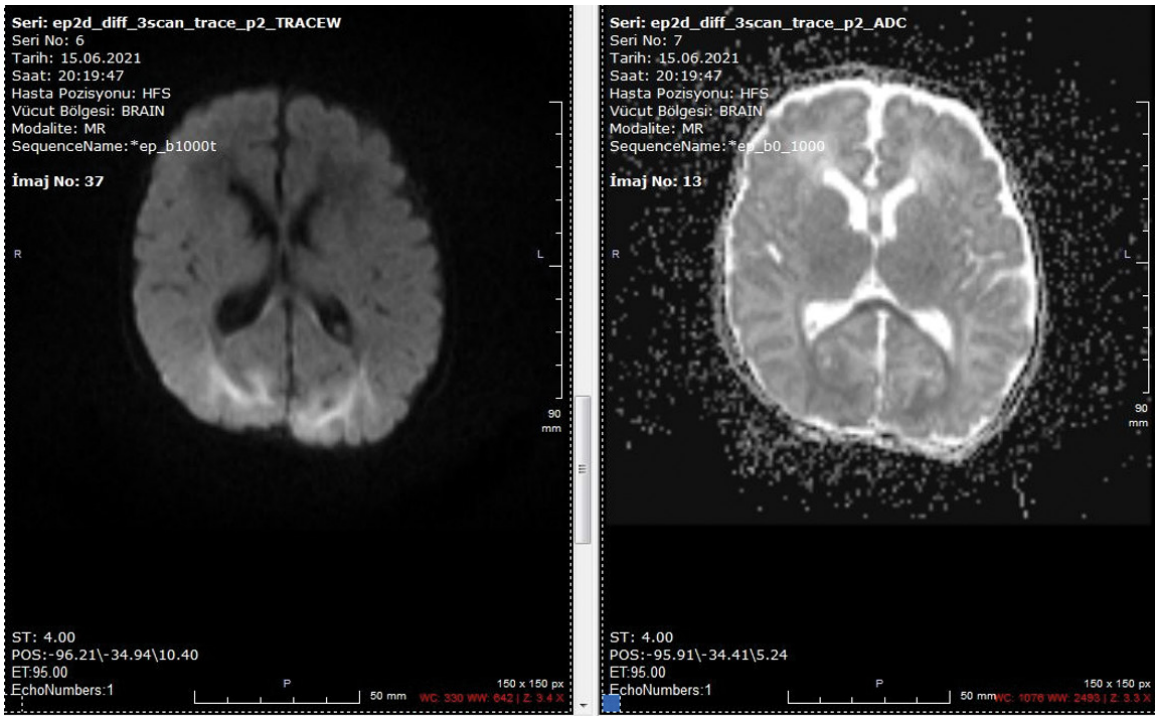

Şekil 1. Hipoglisemi öyküsü olan sekiz günlük kız olgunun manyetik rezonans görüntülemesi. Özellikle beynin posterior kesimlerini tutan beyaz cevher tutulumu gözlenmektedir.

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