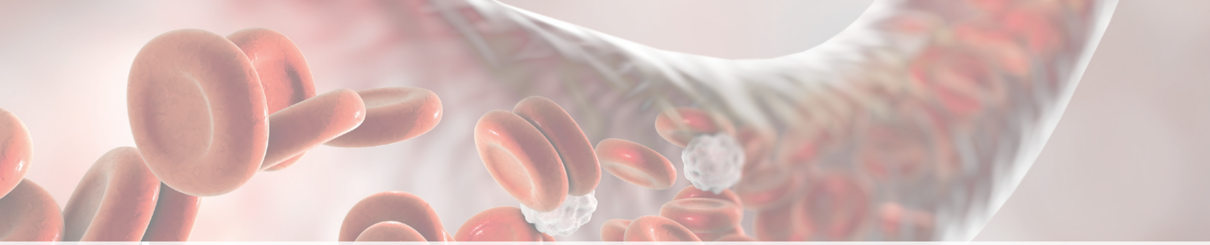

9. Bölüm

SEREBRAL İSKEMİ REPERFÜZYON

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9.1. Serebral Fizyoloji

İnsan beyni vücut ağırlığının %2'lik bir kısmını oluşturmasına rağmen dinlenme durumunda kardiyak debinin %25'i beyin perfüzyonunu sağlar. Aynı şekilde vücutta tüm enerji üretiminin %20'si beyin tarafından kullanılır (1). Serebrumda enerji tüketiminin büyük kısmı nöronal sinyal iletimi amacıyla aksiyon potansiyellerinin oluşturulması ve sinaptik transmisyonda kullanılır. Bu nöronal iletim çoğunlukla adenozin trifosfat (ATP) kullanılarak başta NA^+/K^+ ATPaz pompası olmak üzere iyon pompaları vasıtasıyla membran $Na^+\backslash K^+$ gradienti yolu ile sağlanır (2).

Serebral metabolizma hızı (SMH) beynin glikoz (SMHGl) ve oksijen ($SMHO_2$) kullanımını gösterir. Normal koşullar altında dinlenme durumunda SMHGl 25-30 mmol\100 g\dk, $SMHO_2$ ise 130-180 mmol\100 g\dk arasında değişir (3). Beynin farklı bölümlerinin ve farklı hücre tiplerinin enerji tüketimi değişkendir. Bölgesel olarak gri cevherde SMHGl beyaz cevhere göre fazladır. Yine aynı şekilde işitme merkezi, inferior kollikulus ve somatosensöryal merkez gibi daha aktif bölümlerin enerji tüketimi daha yüksektir (4, 5). Hücresel düzeyde değerlendirildiği zaman nöron hücreleri glia hücrelerine oranla daha yüksek enerji tüketimine sahiptir. Nöronal hücrelerdeki bu fark glia hücrelerine göre daha fazla

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