Bölüm 8

Kopma: Depresyonun Sürdürülmesinde Homeostatik Yönlendiricinin Rolü

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Özet

Beyin nörokimyası ve davranışı modülasyona uğratan düzenleyici etkileşimlerin kompleks olmasının nedeni, çok sayıda stabil yanıtların desteklenebilmesi ve bazı alternatif düzenleyici programların inatçı psikolojik disfonksiyonun sürdürülmesinde bir rol sahibi olabilmesidir. Bu öneriyi araştırmak için literatürde birbirlerinden ayrı mantık devreleri olarak bildirilmiş olan major nörotransmisyon ve davranış mekanizmalarını temsil eden bir ağ modeli ürettik. Bu biyodavranış devresindeki bağlantılar ve bilginin devre üzerinde akışı iki ayrı ve stabil düzenleyici programı destekler. Böyle bir program, düşük serotonin dahil karakteristik bir nörokimyasal imza ile depresif bir tabloyu sürdürtür. Daha ileri analizler glutamat düzeylerindeki ufak tefek düzensizliklerin bu patolojiyi daha da doğrudan ulaşılabilir hale getirebildiğini telkin etmektedir. Hergün karşılaşılan stresörlerin varlığında selektif serotonin geri kapılma inhibitörü (SSRI) tedavisini taklit eden bilgisayar simülasyonları klinikten rapor edilene benzer tekrar etme hızını ön-gördürür ve eş zamanlı yapılan davranış stres yönetme terapisinin potansiyel olarak önemli yararına ışık tutar.

Anahtar sözcükler Bilgisayar modelleme, Homeostatik düzenleme, Depresyon, SSRI, Stres, Nörotransmiterler, Glutamat, Serotonin, Ağ kompleksitesi, Düzenleyici mantık, Mülti-stabilite

1 Giriş

2012'de ABD'deki 16 milyon erişkinin en azından bir kere major depresif nöbet geçirdiği hesaplanmıştır [1]. Olaya daha yakın bir bakış çok daha geniş ve kompleks bir durumun varlığını ortaya çıkartmış olup bir yıllık bir süre içinde ABD'deki erişkinlerin %6,9'u 2 hafta veya daha uzun süre devam etmiş depresif bir duygu durum yaşadığı veya ilgi ve haz almayı yitirdiğini ve uyku, yemek yeme, enerji, konsantre olma ve özeleştiri gibi işlevde bir değişikliği yansıtan en az dört diğer semptom yaşadığını ortaya çıkartmıştır [2]. Bunun bir diğer anlamı, her yıl 14 erişkinden 1 tanesinde, ABD'deki ölüm nedenleri listesinde onuncu olan özkıyım riskinin artmış olduğudur. Depresyonda olmanın açıkça görülecek kişisel sorunlar yaratması bir

yar Bilimi Merkezindeki (CCS) yüksek performanslı bilgisayar ekibinin işbirliği ile yürütülmüştür (CCS)
(http://ccs.miami.edu).

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