

Bölüm 2

PROTEİNLER

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GİRİŞ

Proteinler, tüm yaşam formlarıyla ilişkilidir. Uzun zincirlerde peptid bağları ile bir araya getirilen amino asitler, üç boyutlu uzayda bükülen ve katlanan proteinleri oluşturur ve yaşamın biyokimyasal reaksiyonlarını kolaylaştıracak merkezler oluştururlar. Vücutta binlerce farklı çeşitte bulunan bu enzimler olmadan yaşam olamaz. Proteinler; hormonlar ve sitokinler şeklinde hücre-hücre sinyalleri olarak hareket etmek üzere hazırlanabilir ve salgılanabilir. Karaciğer tarafından üretilen ve salgılanan plazma proteinleri, uygun viskozite ve ozmolarite çözeltisi oluşturarak kanı stabilize eder. Salgılanan bu proteinler ayrıca kan yoluyla çeşitli bileşikleri taşır. Gelişmiş organizmalarda en büyük protein deposu kas dokuda bulunur. Karmaşık etkileşimler sayesinde, tüm protein tabakaları kas kasılmasının ve hareketliliğimizin temelini oluşturmak için ileri-geri hareket halindedir. Kas kasılması, vücudun her yerine oksijen ve besin pompalanmasını, soluk almayı ve hareketi sağlar. Enfeksiyöz olmayan hastalıkların çoğunun altta yatan nedeni, protein dizisindeki düzensizliklerdir. Moleküler biyolojideki gelişmeler DNA ve RNA hakkında ciddi bilgi sağladı ve genomik alanı tanıttı. Bu araştırma DNA'nın kendisini anlamaya değil, genetik koddan çevrilen proteinlerin amacını ve işlevini anlamaya yöneliktir. Ortaya çıkan proteomik alan, proteinlerin ekspresyonunu, modifikasyonunu ve düzenlenmesini inceler (1).

AMİNO ASİTLERDE TEMEL TANIMLAR

Vücut proteini, her biri vücutta farklı metabolik yollara sahip, farklı organlarda çeşitli aktiviteleri olan ve farklı proteinlerde değişen kompozisyonlara sahip 20 farklı amino asitten oluşur. Diyet proteininin emiliminden sonra amino asitler ser-

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PROTEİN ALIMI VE KANSER

Kanser insidansı çevresel faktörlerden açıkça etkilenir, bu nedenle diyetin etkilerinin kesin olarak tanımlanması en zor konu olmasına rağmen, malign tümörlerin gelişiminde ve büyümesinde diyetin rolü çok dikkat çekmiştir. Yapılan geniş çaplı araştırmalar, kırmızı ve işlenmiş et alımının yüksek kolorektal kanser insidansı (56) daha fazla ilişkili olduğunu, et ve süt tüketiminin mide kanseri insidansını etkilemediğini göstermiştir (57).

Hastalık ilişkisini belirlemenin en bilimsel yolu, ilgilenilen değişken dışında birbirine en yakın çalışma gruplarının eşleştirilmesidir. Et ve balık alımlarının ilgilenilen değişkenler olduğu vejeteryan çalışmasında, tüm bireyler benzer sağlıklı yaşam tarzına sahip nüfus gruplarından alınmıştır. Vejeteryanlarda (et veya balık almayan 27 808 vejeteryan) yaygın hastalıklar için elde edilen beş ölüm oranı araştırmasında kombine verilerin analizinde, bireyler benzer (sağlıklı) yaşam tarzı olan vejeteryen olmayanlara (48 364 vejeteryen olmayan) kıyaslanmıştır. Tespit edilen tek fark, muhtemelen vejeteryanlarda kandaki düşük kolesterol seviyesi nedeniyle, vejeteryanlarda vejeteryan olmayanlara göre iskemik kalp hastalığından ölüm oranının % 24 daha düşük olmasıdır (58). Önemli bir nokta şu ki, sağlıklı yetişkin kohortlarında, vejeteryanlar ile vejeteryan olmayanlar arasında mortalite açısından; serebrovasküler hastalık, mide kanseri, kolorektal kanser, akciğer kanseri, meme kanseri, prostat kanseri veya karşılaştırılan diğer tüm nedenler açısından anlamlı bir fark yoktu. Genel olarak, kanıtlar toplam protein alımının kanser insidansı üzerinde çok az etkisinin bulunduğunu, ancak kırmızı veya işlenmiş et gibi belirli gıdaların bitkisel protein kaynaklarına göre riski artırabileceğini göstermektedir (59).

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