BÖLÜM 4

SEFALOSPORİNLERE DİRENÇ MEKANİZMALARI

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Giriş

Sefalosporinler, beta-laktam antibiyotikler içinde yer alan, hem gram-pozitif hem de gram-negatif bakterilere etkinliği nedeniyle günümüzde sıklıkla kullanılan antibiyotiklerdir. 1928 yılında Sir Alexander Fleming'in "*Penicillium notatum*" adı verilen küfün bakterileri inhibe ettiğini göstermesi ve 1941 yılında penisilinin ilaç olarak kullanılmaya başlanmasıyla anti-mikrobiyal ilaçlar tedavide yerini almıştır (1). Bu keşfi takiben, 1945 yılında Profesör Giuseppe Brotzu'nun İtalya'nın Sardunya Adası'nda "*Cephalosporium acremonium*" (şimdi *Acremonium chrysogenum*) mantarının anti-mikrobiyal aktivitesini göstermesiyle sefalosporinlerin keşfi başlamıştır (2). İlk sefalosporin olan sefalotin 1964 yılında kullanılmaya başlanmıştır.

Günümüzde sefalosporinler, geniş etki spektrumu, uygulama kolaylığı, düşük toksisitesi nedeniyle tercih edilen anti-mikrobiyal ilaçlar arasındadır. Bu tercih edilmeye bağlı olarak yaygın kullanımları, artan direnç mekanizmalarına sebep olmakta ve tedavi başarısızlığını beraberinde getirmektedir. Bu sebeple sefalosporinlere karşı oluşan direnç mekanizmalarının bilinmesi ve doğru tespit edilmesi tedavi başarısızlığını ortadan kaldıracak ve klinik başarıya destek olacaktır.

Sefalosporinlere karşı gelişen antibiyotik direnci genel olarak şu dört mekanizmayla ortaya çıkmaktadır:

1. Beta-laktam antibiyotikleri yıkan beta-laktamaz enzimleri
2. İlacın bakteri hücresi içine girişinin azaltılması

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