BÖLÜM 42

Temel Onkoloji

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GİRİŞ

Temel Onkoloji, kanserle ilgili en güncel konularda araştırmalar yürütmek amacıyla kurulmuş ve bunların uygulama alanları konusunda donanımlı, bilgi ve deneyim sahibi araştırmacı insan gücünü yetiştirmeyi hedefleyen, gelecekte kanser alanında bilimsel ve klinik açıdan öncülük edebilecek, yeni gelişmeleri yakından izleyen, onkolojinin alt bilim dallarından biridir. Kanserle ilişkili tüm konular Temel Onkoloji'nin ilgi alanı olmakla birlikte, özellikle karsinogenezin mekanizmalarının ve moleküler temelinin araştırıldığı, bu me-

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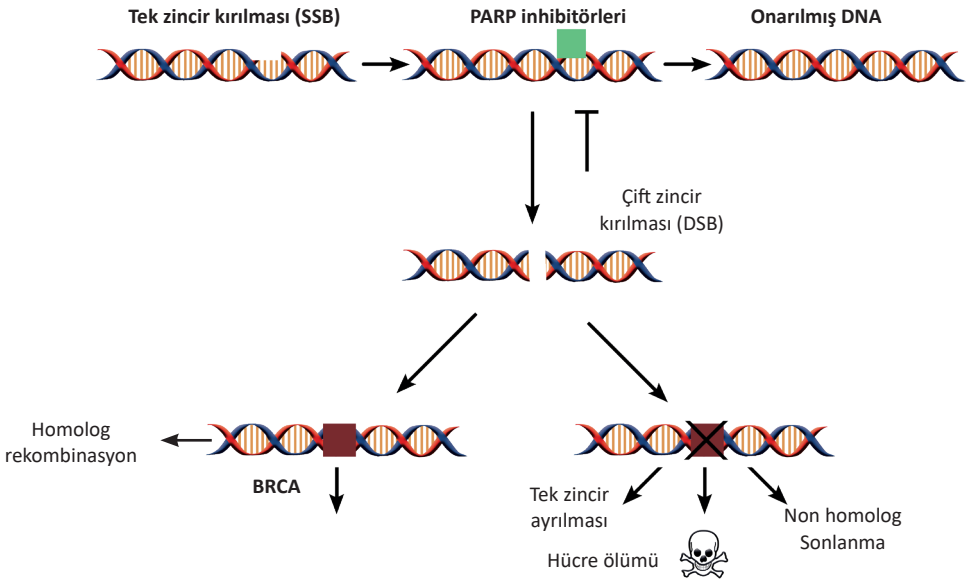

Şekil 28: BRCA eksikliği ve PARP inhibisyonu arasında sentetik letalite mekanizması.

DNA sıklıkla hasara maruz kalmaktadır, ancak tek iplikli kırılmalar (SSB) normal olarak baz eksizyon onarımı tarafından verimli bir şekilde onarılmaktadır (PARP, baz eksizyon onarımının anahtar bileşenidir). PARP inhibisyonu durumunda SSB'lerin devamlılığı gelişmektedir. Bu kırılmalar normal hücrelerde BRCA1 ve BRCA2 gerektiren homolog rekombinasyon yolu ile onarılmaktadır. BRCA1 veya BRCA2'nin mutasyonu veya yokluğunda ise DNA tamir edilememekte ve bu da hücre ölümü ile sonuçlanmaktadır (DSB; çift iplikli kırılma).

Kanser hücresinin moleküler ve genetik karmaşıklığı karşısında, tümör gelişminde ve büyümesinde rol oynayan gen ağlarının ve sinyal yolaklarının birbirleriyle nasıl etkileştiği ve çevresiyle ilişkisi ile ilgili temel prensipler üzerinde araştırma yapmak önemli hale gelmiştir. Gelecekte bu temel prensipler daha anlaşılır hale gelerek karsinogenez süreci aydınlanacak ve yeni tedavi yöntemleri geliştirilerek kanser hücreleri bu savaşı kaybedecektir.

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