BÖLÜM 9

TİROİD KANSERİNDE MOLEKÜLER ONKOGENEZ

Ergün ÖZTAŞ [1]

GİRİŞ

Tiroid kanseri (TK), endokrin sistemin en sık görülen malign neoplazmı olarak küresel sağlık gündeminde giderek artan bir öneme sahiptir [1]. Son otuz yılda dünya genelinde gözlenen üç katlık insidans artışı, sadece tanısal yöntemlerdeki gelişmelerle değil, aynı zamanda çevresel ve genetik faktörlerin kompleks etkileşiminin bir sonucu olarak da açıklanmaktadır [2]. Güncel SEER (Surveillance, Epidemiology, and End Results) verileri, TK'nin tüm maligniteler içinde %3.4'lük bir prevalansla önemli bir halk sağlığı sorunu olarak karşımıza çıktığını ortaya koymaktadır [3].

Epidemiyolojik Trendler ve Cinsiyet Disparitesi

Tiroid kanserlerinin epidemiyolojik dağılımında belirgin bir cinsiyet farkı dikkati çekmektedir. Kadınlarda erkeklere göre 2-3 kat daha sık görülmesi, östrojen reseptör-α'nın mitojenik etkisiyle ilişkilendirilmektedir [4]. Özellikle obezite olgularında artmış leptin ve IGF-1 seviyeleri ile tümör proliferasyonu arasındaki bağlantılar, metabolik faktörlerin TK patogenezindeki rolünü vurgulamaktadır [5].

Çevresel Risk Faktörleri ve Radyasyon Maruziyeti

Nükleer felaketler (Çernobil, Fukushima) sonrası radyoaktif iyot (I-131) maruziyeti ile papiller tiroid kanseri (PTC) sıklığında belirgin artış gözlenmiştir [6]. Çocukluk döneminde iyonize radyasyona maruziyet ve baş-boyun radyoterapisi öyküsü, RET/PTC füzyonlarını indükleyerek solid varyant PTC riskini 15-53 kat artırmaktadır [7]. Cardis ve arkadaşlarının 2005'te yayınladığı seminal çalışma, bu maruziyetin epidemiyolojik boyutlarını ortaya koyarken [8], Nikiforov'un çalışmaları moleküler düzeydeki hasar mekanizmalarını aydınlatmıştır [9].

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bitörleri), özellikle ileri evre ve RAI-dirençli tiroid kanserlerinde tedavi seçeneklerini önemli ölçüde genişletmiştir [170].

Gelecek perspektifinde, çoklu omik analizler ve yapay zeka tabanlı yaklaşımlar, tiroid kanserlerinin moleküler heterojenitesinin daha iyi anlaşılmasını ve daha etkili tedavi stratejilerinin geliştirilmesini sağlayacaktır. Ayrıca, epigenetik modifikasyonların ve tümör mikroçevresinin daha iyi karakterize edilmesi, yeni terapötik hedeflerin belirlenmesine katkıda bulunacaktır [171].

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