

BÖLÜM 32

Radyoterapinin Kardiyak Komplikasyonları ve Kalp Damar Cerrahisi Açısından Zorlukları



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GİRİŞ

Ortalama insan ömrünün uzaması ve modern yaşam tarzının getirdiği maruziyetler, kanser tanısı alan hasta sayısını her geçen gün arttırmaktadır. Öte yandan kanser tedavisinde kullanılan kemo-terapi, radyoterapi (RT), cerrahi yöntemler ve destekleyici bakım uygulamalarındaki gelişmeler nedeniyle hastalardaki sağ kalım süresi de geçmişe nazaran oldukça uzamıştır. Sadece Amerika Birleşik Devletleri'nde 1 Ocak 2014'te kanser öyküsü olan çocuk ve yetişkin hastalardan yaklaşık 14,5 milyon kişinin sağ kaldığı kaydedilmiştir. 2024 yılına kadar bu sayının neredeyse 19 milyona çıkacağı tahmin edilmektedir (1).

Radyoterapi, kullanılmaya başlandığı andan itibaren kanser tedavisinin vazgeçilmez uygulamalarından biri haline gelmiştir. Radyoterapi ilk olarak X ışınının keşfinden hemen sonra 1896 yılında Fransız bir doktor olan Victor Despeignes tarafından mide kanseri olan bir hastaya uygulanmıştır.

Süregelen dönemde William Pusey 1902 yılında, bir Hodgkin Lenfoma vakasında radyasyon tedavisini kullanmış ve başarılı bir şekilde tedavi ettiğini bildirmiştir. Günümüzde kanser tedavisinde, iyonize radyasyondan (İR) faydalanılarak uygulanan RT tüm malignitelerin yaklaşık olarak yarısında tedavi amacıyla kullanılırken, özellikle Hodgkin Lenfoma ve meme kanseri için ana tedavi modalitelerinden biri haline gelmiştir (2). İyonize radyasyonun kardiyovasküler sisteme olan etkileri ilk olarak atom bombasından kurtulanlarda, daha sonra ise RT uygulanan hastalarda gözlenmiştir (3,4). Radyoterapi ve kardiyak komplikasyonlar arasındaki nedensel ilişki, büyük oranda RT uygulanan Hodgkin Lenfoma ve meme kanseri hastalarının incelendiği çalışmalara dayanmaktadır (4).

Günümüzde kanser tedavisi gören hastalarda sağ kalım süresinin uzamasının yanı sıra, kardiyak hastalığa sahip olma potansiyeli yüksek olan daha yaşlı hasta gurubuna giderek artan sayıda kanser tanısı konulmaktadır. Bu nedenlerle RT uygulanan

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SONUÇ

Radyoterapi kanser tedavisinde sıklıkla kullanılan tedavi yöntemlerinden biridir. Kanser tedavisi sonrası sağ kalım sürelerinin ve sayılarının artması ile radyasyon tedavisinden sonra özellikle uzun dönemde gelişebilecek komplikasyonların ortaya çıkmasına sebep olmuştur. Kardiyovasküler komplikasyonlar bunlar içerisinde mortalitesi ve morbiditesi en yüksek olanlardan biridir. Yapılan çalışmalar kardiyovasküler risk faktörlerine sahip hastalarda komplikasyon gelişme riskinin daha yüksek olduğunu kanıtlamıştır. Bu sebeple radyoterapi öncesinde hastaların kardiyovasküler risk faktörleri açısından araştırılması önemlidir. Obezite, sigara kullanımı, hiperlipidemi, diyabetes mellitus gibi değiştirilebilir risk faktörlerinin tedavisine eğer başlanabiliyor ise radyasyon tedavisinden önce başlanmalı, radyoterapi sonrası devam ettirilmelidir. Kanser sonrası sağ kalanların uzun dönem takiplerinde, özellikle mediastinal radyoterapi öyküsü olan hastalarda kardiyak komplikasyonlar açısından dikkatli olunmalıdır. Gelişebilecek herhangi bir hastalık durumunda, normal popülasyonda görülen kardiyak hastalıklara göre mortalitesi ve morbiditesinin daha yüksek olduğu, tedavisinin daha zor olduğu ve yapılacak cerrahi işlemler sonrası komplikasyon oranlarının daha yüksek olduğu unutulmamalıdır.

Gelişen yeni teknolojiler sayesinde RT, görüntü klavuzluğunda ve yoğunluk veya volumetrik ayarlı olarak uygulanır hale gelmiştir. Tümör dokusuna lokalize küçültülmüş hedefler sayesinde normal dokunun aldığı RT dozları azaltılmıştır. Ancak özellikle meme kanserinde yapılan yeni çalışmalar kardiyak etkilenmenin hala devam ettiğini göstermektedir. Radyasyona maruz kalan tüm kardiyak bölgelerde meydana gelen patolojik değişikliklerin mekanizması yapılan çalışmalar ile iyi anlaşılmıştır. Salgılanan pro-fibrinolitik ve inflamatuvar sitokinler, gelişen ateroskleroz ve fibrozisin ana mekanizmasını oluşturur. Bu mekanizmaların gelişimini önleyebilmek için özellikle kardiyovasküler risk faktörleri mevcut olan kanser hastalarında,

radyoterapi öncesi başlanılan tedavilere yeni nesil sitokin, interlökin ve fibroblast inhibitörleri gibi tedavilerin başlanması fikri umut verici sonuçlara yol açabilir.

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