Bölüm
9

HEPATOSELLÜLER KARSİNOM TANISINDA MOLEKÜLER GÖRÜNTÜLEME YÖNTEMLERİ

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GİRİŞ

Moleküler görüntüleme, moleküler biyoloji ve konvansiyonel tıbbi görüntülemenin çekirdeğinde yer alan ve fizik, kimya, biyoloji, farmakoloji, genomik ve mühendislik gibi farklı disiplinlerin oluşturduğu bir alandır. Son yıllarda laboratuvar ve klinik düzeyde iki ana faktör moleküler görüntüleme alanının yükselişini sağlamıştır; özellikle kanser olmak üzere çeşitli hastalıkların patogenezinde rol oynayan ana moleküler mekanizmaların daha iyi anlaşılması ve görüntüleme teknolojilerinin sürekli artan gelişimi. Kanser örneğinde olduğu gibi, hem hücresel hem de mikroçevresel düzeyde meydana gelen metabolik değişimler, ayrıca hastalıkların hücresel düzeyde belirteçleri moleküler görüntüleme için umut verici hedefler haline gelmiştir. Bu geniş çalışma alanında floresan görüntülemeden nükleer görüntüleme ve manyetik rezonansa kadar çok geniş bir yelpazede çeşitli görüntüleme yöntemleri geliştirilmiştir Onkolojik nükleer tıp özelinde ise kanserleşen hücrede meydana gelen metabolik değişiklikler, reseptörlerdeki up-regülasyonlar, buna bağlı mikroçevrede meydana gelebilecek neovaskülarizasyon ya da hipoksi gibi durumlar göz önünde bulundurularak moleküler düzeyde hücreler hedeflenerek görüntü oluşturulmaktadır. Günümüzde teknolojinin hızlı ilerlemesine paralel olarak Nükleer Tıpta da birçok yeni görüntüleme ajanı, daha iyi görüntüleme yapabilen cihazlar geliştirilmekte olup Nükleer tıp görüntüleme ve tedavi seçenekleri gün geçtikçe daha etkin rol oynamaktadır.

HEPATOSELLÜLER KARSİNOM

Primer karaciğer maligniteleri dünya çapında en sık teşhis edilen altıncı kanser ve kansere bağlı ölümlerin dördüncü önde gelen nedenidir. 2018 yılında 841.000 yeni vaka ve 782.000 kansere bağlı ölüm görülmüştür. Hepatosellüler karsinom (HCC) primer karaciğer kanser vakalarının %75-85'ini oluşturmakta olup en sık görülen tipidir. Afrika ve Asya'da en sık risk faktörü hepatit B ve hepatit C gibi kronik viral enfeksiyonlara bağlı gelişen siroz iken Amerika Birleşik Devletleri (ABD) gibi ülkelerde non-alkolik steatohepatit (NASH) önde gelen sebepler arasındadır. Alkol ve sigara tüketimi, aflatoksin maruziyeti, tip 2 DM ve obezite ise HCC gelişiminde etkenler arasında kabul edilmektedir (1,2). İnsidansı ve ölüm oranı ABD'de yıllar içerisinde artış gözlenmiştir (3).

HCC tanısı çoğunlukla görüntüleme çalışmalarına ve laboratuvar testlerine dayanmakta olup HCC hastalarının tanı, tedavi planlaması, yönetimi ve takibinin tüm aşamalarında kullanılan ultrasonografi (USG), bilgisayarlı tomografi (BT), manyetik rezonans görüntüleme (MRG) ve moleküler görüntüleme yöntemi olan pozitron emisyon tomografi/bilgisayarlı tomografi (PET/BT) gibi görüntüleme yöntemleri bulunmaktadır (4). HCC'li hastaları asemptomatik iken ve karaciğer

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