BÖLÜM 1

SARS-COV-2 VİRÜSÜNÜN YAPISI VE VİROLOJİK ÖZELLİKLERİ

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GİRİŞ

Koronavirüsler, kuş, yabani ya da evcil bazı memeliler ve insanlar dahil olmak üzere çok çeşitli konakçıları enfekte edebilen zarflı, tek sarmallı RNA virüsleridir. Genomik organizasyon ve filogenetik ilişki temelinde, koronavirüs ailesi dört cinsten oluşmaktadır: Alfakoronavirüs (αCoV), Betakoronavirüs (βCoV), Gamakoronavirüs (γCoV) ve Deltakoronavirüs (δCoV)[1]. Koronavirüslerin evrimsel analizi, αCoV ve βCoV'nin yarasa ve kemirgenlerden, γCoV ve δCoV'nin ise kuş türlerinden kaynaklandığını ortaya çıkarmıştır[2]. Koronavirüsler, hızlı mutasyona uğrama, doku tropizmini değiştirme, tür bariyerini aşma ve farklı epidemiyolojik durumlara uyum sağlama yetenekleriyle bilinir[3]. 1960'lardan beri altı insan koronavirüsü rapor edilmiştir; bunlardan dördü (OC43, 229E, NL63 ve HKU1), soğuk algınlığı ve gastrointestinal sistem enfeksiyonu benzeri semptomlarla giden hafif hastalığa neden olurlar. Diğer ikisi, şiddetli akut solunum sendromu koronavirüsü (SARS-CoV) ve Orta Doğu solunum sendromu koronavirüsü (MERS-CoV), zoonotik ortaya çıkmaları ve tür bariyerini geçerek insanlarda yüksek patojenite ve ölüm oranlarına neden olmaları nedeniyle önemli halk sağlığı problemlerine neden olmuştur. SARS-CoV ve MERS-CoV'ların ana konakçıdan (yarasalar) sırasıyla misk kedilerine veya tek hörgüçlü develere, ardından son olarak insanlara[4-6] aktarıldığı bildirilmiştir. Hem SARS- hem de MERS-CoV'lar yüksek derecede patojenik olup %9.6 ve %34.3 fatalite oranlarıyla sırasıyla 774 ve 866 kişinin ölümüne yol açmışlardır[7,8].

Aralık 2019'da Wuhan şehrinde kümelenen pnömoninin nedensel etkeninin yapılan çalışmalar neticesinde insanda hastalık yapan yedinci bir koronavirüs olduğu saptanmıştır. Bu virüs önce geçici olarak 2019 yeni koronavirüs (2019-nCoV) olarak adlandırılmış daha sonra Uluslararası Virüs Taksonomi Komitesi tarafından şiddetli akut solunum sendromu koronavirüs-2 (SARS-CoV-2)

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laş ve çok nadiren vertikal bulaşın da örnekleri vardır.

- Virüs sıcaklığın artmasıyla daha hızlı inaktive olur. UVC ve kısmen UVB de belli bir süre sonra virüsü inaktive eder.
- Virüs bir RNA virüsü olduğu için sık mutasyona uğrar ancak bu mutasyonun fenotipe yansıyıp yansımayacağı değişkendir.
- Virüsün birçok T hücre ve B hücre epitopu olduğu için meydana gelen mutasyonun mevcut aşıların tamamen etkisiz olmasına yol açması beklenmemektedir.

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