

8. Bölüm

AKCİĞER İSKEMİ REPERFÜZYON

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8.1. Akciğer Fizyolojisi

Solunum sistemi, dokular için gerekli oksijenizasyonun sağlanması, karbon-dioksit (CO_2)'in eliminasyonu, kan asit baz dengesinin sağlanması ve ses çıkartma gibi 4 temel işlevi yerine getirir. Atmosferden alınan oksijen (O_2)'den zengin hava, difüzyonun yapılacağı alveollere gelinceye kadar, üst solunum yolları ile ısıtılır, havadaki zararlı partiküllerden temizlenir ve nemlendirilir.

8.1.1. Gaz Alışverişi

Küçük canlılarda doğrudan difüzyon ile gerçekleşen solunum, daha büyük canlılar ve tüm memeliler için özelleşmiş solunum sistemlerinde meydana gelen difüzyon ile olur. Oksijen ve CO_2 'in alveoller ve kapillerler arasındaki difüzyonu pasif difüzyondur ve herhangi bir enerji gerektirmez (1). Bu pasif difüzyonun gerçekleşmesi için basınç farkının bulunması gerekir. Atmosfer havasında bulunan gazların temel olarak özellikleri şunlardır: basınç farkı yönünde hareket ederler, direnç arttığında akış azalır ve her bir gazın karışım içindeki miktarına bağlı olarak bir basıncı vardır. Difüzyon kanunu vücut dokuları ve sıvılarında erimiş halde bulunan gazlar için de geçerlidir.

Dolaşım sistemi ise, kan hücreleri sayesinde atmosferden ihtiyaç duyulan gazların hücrelere ulaştırılmasında temel rol üstlenmektedir. Dokulara gaz transferi,

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