



BÖLÜM 8.1

VENÖZ HAVA EMBOLİSİ

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GİRİŞ

Venöz hava embolisinin temelinde, venöz sistemle atmosfer arasında bağlantı olması ve venöz sistemden yana negatif basınç farkının bulunması yatmaktadır. Genellikle cerrahi sahanın kalp üzerinde olduğu oturur pozisyonundaki beyin cerrahisi ameliyatları ve bu ameliyatlarda kollabe olmayan dural venler gibi venlerin hava ile teması, havanın dolaşıma girmesini sağlar. Venöz hava embolisi (VHE) intravenöz kateterizasyon sırasında, damarların kardiyak, radyolojik yada cerrahi işlemleri sırasında, travma veya pozitif basınçlı ventilasyon sırasında da görülebilmektedir. Modern medikal ve cerrahi tekniklerle yeni hava embolisi vakaları nadirde olsa görülmektedir. Örneğin kontrast madde enjeksiyonu sırasında, laparoskopik cerrahide gaz verilmesi esnasında, intraaortik ba-

lon kullanımında balonun yırtılması durumunda, intraosseöz kanülasyon sırasında, veya diğer vücut boşluklarına sıvı enjeksiyonu sırasında da hava embolisi görülebilir. (1-3)

Hava girişi ; havanın giriş yerindeki atmosfer basıncı ile sağ atriyum basıncı arasındaki farka bağlıdır. Periferik kateterlerden, santral venöz kateterlerden, intravenöz infüzyon sırasında da VHE yaşanabilir veya basınçlı sıvı infüzyonu, bazı özellikli ameliyatlar, kateter takılması çekilmesi gibi durumlarda iyatrojenik olarak da gerçekleşebilir. Venöz hava embolisi görülme sıklığı yapılan operasyona, intraoperatif pozisyona ve hava embolisi için kullanılan tanı yöntemine göre değişir. Oturur pozisyonunda gerçekleştirilen posterior fossa ameliyatları sırasında VHE hastaların yaklaşık %40'ında prekordiyal Doppler ile,

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Son çalışmalara göre hiperbarik oksijen tedavisi kan beyin bariyeri geçirgenliğini ve iskemi reperfüzyon hasarını azaltır. Hiperbarik oksijen tedavisinin erken uygulanması yüksek başarı oranına sahip olmakla birlikte gecikmiş vakalarda da kullanım endikasyonu vardır. Herhangi bir semptom yoksa bile uygulanabilir ve klinik faydası görülmeyene kadar tekrarlayan seanslar önerilir. (53, 54)

SONUÇ

Venöz hava embolisi basit bir damar yolu açma girişimi veya intavenöz sıvı infüzyonu gibi uygulamalardan kompleks ameliyatlara kadar birçok durumda meydana gelebilmektedir. Venöz sistemin atmosferle teması, vücudun pozisyonu ve venöz sistemin atmosfere göre negatif basınç durumu hava girişinde önemli rol oynamaktadır. Monitörizasyon ve takip VHE tespitinde şart olduğu gibi erken müdahale edilmezse kardiyak arreste kadar gidebilir. Ciddi vakalarda resüsitasyon basamaklarıyla birlikte ileri tıbbi müdahalelerde bulunulmalıdır. Gerektiğinde hiperbarik oksijen tedavisi de erken ve geç vakalarda kullanılabilir.

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