

# Bölüm 8

## YOĞUN BAKIM ÜNİTESİNDE ZOR HAVA YOLU YÖNETİMİ

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### GİRİŞ

Güvenli hava yolu, yoğun bakım ünitesi (YBÜ)'nde yüksek riskli bir prosedürdür. Hemodinamik instabilite, hipoksemi, metabolik asidoz, artmış kafa içi basıncı ve koagülopati gibi durumlar ameliyathanelere kıyasla yoğun bakım ünitelerinde çok daha sık görülür. YBÜ'nde gelişen hava yolu ile ilgili olaylar potansiyel olarak ölümcüldür. Bu durum yoğun bakım uygulayıcılarına minimum hata yapma payı verir (1,2). Trakeal entübasyon sırasındaki gecikmeler ve laringoskop ile çoklu girişimler, kardiyak arrest ve ölüm gibi artmış komplikasyonlara yol açabilir (3,4). İlk denemede ki entübasyon başarısızlık oranı %30 (4,5), entübasyon sırasında şiddetli hipoksemi %25 oranında bildirilmiştir (6). YBÜ'ndeki hastaların yaklaşık %6 'sında tahmin edilen zor hava yolu vardır (7). Yoğun bakımda havayoluyla ilişkili görülen beyin hasarı ve ölüm oranı, anestezi nedeniyle oluşanlara göre yaklaşık 60 kat daha fazladır (3).

Zor hava yolu; deneyimli bir anestezi doktorunun, maske ventilasyonu ve trakeal entübasyonda zorlukla karşılaşması olarak tanımlanmaktadır (8). Zor maske ventilasyonu (ZMV) ve zor entübasyon görülme oranı oldukça yaygındır (9). Zor havayolu yönetimini çoğunlukla hasta ve çevresel faktörler ile birlikte uygulayıcının deneyimi, becerileri ve seçimleri etkilemektedir.

Zor hava yolunu oluşturan komponentler; (10,11)

a-) Zor maske veya supraglottik havayolu (SGH) ventilasyonu

- b-) Zor supraglottik havayolu aracı (SGA) yerleştirilmesi
- c-) Zor laringoskopi
- d-) Zor trakeal entübasyon
- e-) Başarısız entübasyon ve FONA (front of neck airway) olarak belirlenmiştir

### Zor Maske Ventilasyonu

Hava yolu maskesinin zor yerleştirilmesi, hava kaçağının aşırı olması, hava giriş çıkışında direnç artışı gibi sebeplere bağlı yeterli maske ventilasyonunu sağlayamamaktır (12). Yaşın 55 üstü olması, vücut kitle indeksinin 26 'dan büyük olması, diş eksikliği, sakal varlığı ve horlama öyküsünün olmasının ZMV için bağımsız risk faktörleri olduğu ve bu kriterlerin ikisinin varlığı halinde ZMV tanısı konabileceği rapor edilmiştir (13).

### Zor SGA Yerleştirilmesi

Supra glottik hava yolu aracı yerleştirilmesi sırasında birden fazla deneme gerekmesidir (10).

### Zor Laringoskopi

Laringoskopi ile birden fazla denemeye rağmen vokal kordların herhangi bir kısmının görülebilmesidir (10).

### Zor Trakeal Entübasyon

Endotrakeal entübasyon için birden fazla deneme gerekmesidir (10).

### Başarısız Entübasyon ve FONA

Birden fazla entübasyon denemeleri sonucunda endotrakeal tüpün yanlış yerleştirilmesidir.

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FONA için hazırlık aşaması üç adımda gerçekleştirilir. Birinci adım; başarısız bir entübasyon girişiminden sonra 'FONA setini başucuna almak', ikinci adım; yüz maskesi veya SGA girişiminde başarısızlık olması durumunda 'FONA setinin açılması', üçüncü adım; CICO durumunda FONA'nın derhal uygulanmasıdır. Böyle aşamalı bir yaklaşım, operasyonel hazırlığı kolaylaştırır ve FONA performansını hızlandırarak gecikmeyi önler (15,108).

Optimal FONA tekniği, krikotiroid membran yoluyla bistüri ile yapılır (16). Krikotiroid membranı palpe edilebilen hastalarda yatay bir kesi, krikotiroid membranı palpe edilemeyenlerde dikey bir kesi ile cilt insizyonu yapılarak bir buji klavuzluğunda 5.0-6.0 mm (milimetre) trakeal tüp ile hava yolu sağlanır. Her iki durumda da boyun ekstansiyonu sağlanarak girişim gerçekleştirilir (105). Mevcut kanıtların çoğu bistüri ile krikotiroidotomi yöntemini önermektedir. Bu yöntem hızlı ve güvenilir bir yöntem olup yüksek başarı oranına sahiptir. PEEP uygulamasına izin verip, aspirasyona karşı koruma sağlayarak güvenli bir hava yolu sağlar (102,104).

Bistüri ile krikotiroidotomi başarısız olursa perkütan veya cerrahi trakeostomi ya da diğer FONA yöntemlerinden biri denenmelidir. Trakeal yerleşimi doğrulamak için dalga formu kapnografi kullanılmalıdır (16,109,110). Perkütan veya cerrahi trakeostomi, hem zaman alıcı hemde deneyim gerektiren işlemlerdir. FONA için Seldinger krikotiroidotomi tekniğini önermek için yeterli kanıt yoktur (16,111-113). Transtrakeal jet ventilasyon, hem başarısızlık oranının hemde komplikasyon oranının yüksek olması nedeniyle çoğu zaman tercih edilmemektedir (105,114).

## SONUÇ

Yoğun bakım ünitesinde zor hava yolu yönetimi ağır hipoksi, ciddi hipotansiyon, kardiyak arrest ve ölüm gibi ciddi komplikasyonlarla direkt ilişkilidir. Bu komplikasyonları minimize etmek ve ideal bir hava yolu yönetimini sağlamak için; ekip hazırlığı, hasta hazırlığı, ekipman hazırlığı ve uygulanacak işlem hazırlığı tam ve eksiksiz bir şekilde yapılmalıdır. Atılacak her bir adım bir plan dahilinde gerçekleştirilmeli, vakit kaybetmeksizin uygulanmalıdır.

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