AKUT BÖBREK YETMEZLİĞİ DENEY HAYVAN MODELLERİ

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BÖLÜM

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GİRİŞ:

Akut böbrek yetmezliği (ABY), metabolik denge, sıvı dengesi ve elektrolit homeostazı saatler veya günler içerisinde bozan, böbrek fonksiyonlarının ani bozulmasıyla karakterize akut gelişen ve genellikle geçici bir süreçtir.%25-70 mortal seyreder. Travma, komplike cerrahiler, yoğun bakım hastalarında, kemik iliği transplantasyonu, karaciğer yetmezliği, kardiyak cerrahi geçirecek hastalarda ABY geliştiğinde mortalite riski daha da artmaktadır.[1] Hemodinamik instabilite, hipovolemi, ateroskleroz, diüretik tedavisi, beslenme-sıvı alım bozuklukları, sarılık, diabetes mellitus(DM), hipoksi, iskemi ve reperfüzyon, eklampsi/preeklampsi, sepsis, majör yanıklar ve pankreatit ABY'ye yol açabilen hastalıklardır.[2] Patofizyolojisine göre 3 tipte sınıflandırılır: prerenal, intrensek ve postrenal. Prerenal ABY, hipovolemi, şok veya iskemiye bağlı renal perfüzyonun bozulmasına bağlı glomerüler renal filtrasyondaki (GFR) azalmaya bağlı olarak gelişir. İntrensek renal yetmezlik, glomerül, tübül, böbreği besleyen damarlar, veya interstisyuma meydana gelen hasar sonucu oluşur. İntrensek yetmezliğin ana nedenleri genellikle iskemi veya nefrotoksik hasara bağlı akut tübüler nekrozdur(ATN). Prerenal ABY ve ATN tüm ABY nedenlerinin neredeyse %75'ini oluşturur. Post renal akut böbrek yetmezliği, renal toplayıcı sistemde basınç artışına bağlı GFR'yi düşüren ve böbrek yetmezliğine yol açan üriner toplayıcı sistemdeki obstrüksiyon gelişmesi nedeniyle meydana gelir. Rabdomyoliz, çizgili kas yıkımına bağlı olarak ekstrasellüler sıvıya masif myoglobin salınımına bağlı oluşan bir sendromdur. Myoglobinin tübüler yapıları tıkaması, nitrik oksit salınımına bağlı intrarenal vazokonstrüksiyonun artması ve hipovolemi meydana gelen ATN'yi daha da şiddetlendirir. [1] Gentamisin gibi antibiyotikler, sisplatin gibi antikanser ilaçları, ifosfamid, radyokontrast madde, non-steroid antiinflamatuvar ilaçlar (NSAİİ), ozmotik değişiklikler, folik asit gibi diette bulunan veya endojen olan ajanlar ABY'ye yol açan faktörlerdir.[3-6] Deneysel ABY hayvan modelleri hipoksik, toksik veya sepsise bağlı olarak gelişen olarak sınıflandırılabilir. Fakat bu durumlar bazen aynı anda görülebileceğinden birbirlerini etkilerler. Mesela dehidratasyon, sisplatin gibi nefrotoksinlerin birikimini arttırdığından renal mikrosirkülasyonun azalmasına yol açar veya hipoksi tübülotoksiktir fakat hipoksiye bağlı sekonder gelişen enflamasyon da tübülotoksisiteyi arttırır. Hipertansiyon, DM, yaşlılık, anemi yine renal medüller hasar yapar, oksijen tüketimini arttırır ve renal mikrosirkülasyonu bozar.[7,8] Bu

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