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BÖLÜM

HİPERTANSİYON HAYVAN MODELLERİ

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Hipertansiyon, dünya çapında kardiyovasküler hastalık ve tüm nedenlere bağlı ölümlerin başlıca önlenabilir nedenlerinden birisidir. Tekrarlayan ofis ölçümlerinde sistolik >140 mmHg, diyastolik >90 mmHg den daha yüksek kan basıncı değerleri hipertansiyon olarak tanımlanır (1). Hipertansiyon sistemik bir hastalık olup, devamlı kan basıncı yüksekliği ile seyrederek bu sebeple ciddi komplikasyonlara neden olur. Ofis kan basıncı ölçümlerine göre yapılan değerlendirmede, 2015 yılında global olarak hipertansif olan kişi sayısının 1.13 milyar, orta ve doğu Avrupa'da 150 milyonun üzerinde olduğu saptanmıştır (2). Hipertansiyonun genel prevalansı ise 2015 yılında yetişkinlerde % 30-45 civarındadır (3). Bu prevalans, gelir durumu ne olursa olsun, tüm dünya ülkelerinde aynı oranlarda seyretmektedir. Hipertansiyon prevalansı yaşla giderek artar ve 60 yaş üstü kişilerde sıklığı % 60'ın üzerine çıkar (3). Kontrol altına alın(a)mayan hipertansiyonun, böbrek yetersizliği, kalp yetersizliği, hemorajik veya iskemik inme, periferik arter hastalığı, koroner kalp hastalığı ve aort diseksiyonuna neden olarak bireylerde ölüm oranlarını artırdığı bilinmektedir. Yüksek seyreden kan basıncının 2015 yılında 10 milyondan fazla ölüme ve 200 milyondan fazla kişide ise özürüllülüğe neden olduğu belirlenmiştir (4). Son 30 yıldaki tedavilerde meydana gelen ilerlemelere rağmen 1990 yılı başlangıç alındığında özürüllü olarak yaşamını idame ettiren kişi sayısında %40 oranında artış gözlenmiştir. Toplumda hipertansiyonun bu sıklıkta görülmesi, tedaviye rağmen bu denli komplikasyona neden olması ve etiopatogenezinde birden fazla nedenin bulunması nedeniyle birçok deneysel hayvan modeli oluşturulmuştur (5). Beraberinde, hayvan modellerinde hipertansiyon oluşturulması insanla karşılaştırıldığında farklı patogenez ve kendine has özellikler gösterebilmektedir. Bundan dolayı,

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2-) Tavřan

Anestezi uygulanmamıř bir hayvanda, santral kulak arteri kanüle edilir. Alternatif olarak, karotis arter % 1 lidokain infüzyonu sonrasında kanüle edilebilir. Bu kulak arterinden ölçümün dezavantajları arasında, hematom ve arteriyel spazm sayılabilir (16, 67).

3-) Rat

3.a-) Deneyden bir hafta öncesinde, her rat'a 40 mg/kg pentobarbital ile anestezi yapılır (67). Aseptik řartlar sağlandıktan sonra sol, sağ karotis arter veya femoral arter (kan basıncı takibi için) kanüle edilir (75). Kanülün serbest ucu deri altından geçirilir ve rat'ın kulaklarının arkasındaki deriden 3-4 cm dışarı olacak řekilde çıkarılır. Deri dikilir ve denek 24 saat boyunca alışma süresi için kafese yerleştirilir. Deney günü, salin içinde 200 U/ml heparin ile doldurulmuş bir basınç tüpü implante edilen katetere bağlanır ve kan basıncı ölçümü yapılır.

3.b-) Abdominal aorta küçük bir polietilen tüp ile kanüle edilir ve arteriyel kan basıncını kaydetmek için cildin altından boynun arkasındaki bir çıkıřa yönlendirilir.

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