



BÖLÜM 26

ROBOTİK CERRAHİ TEKNİĞİ VE GELECEĞİ

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TARİHÇE

Küresel olarak teknoloji alanında yaşanan hızlı gelişimler şüphesiz ki cerrahi prosedürleri uygulama şekillerimiz konusunda da hızlı bir değişim ve gelişime neden olmaktadır. Yapılacak olan herhangi bir ameliyatın temel prensibi dokuya mümkün olduğunca minimal invaziv prosedürler kullanarak en az hasar ile ulaşmak, hastalıklı dokuyu tamamen temizlemek ve daha sonrasında anatomik planlara uygun olarak cerrahiyi sonlandırmaktır. Laparoskopik prosedürlerin gelişmesi ve yaygınlaşması ile bir tek kadın doğum alanında değil diğer tüm cerrahi alanlarda da minimal invaziv cerrahi prosedürler önemli bir yer tutmaya başlamıştır.

Robotik cerrahinin tarihsel sürecine bakıldığında “Robot” kelimesi ilk kez 1920 yılında Karel Čapek tarafından yazılan “Rossum’s Universal Robots” adlı eserde kullanılmış ve bu kelime Çekçe’de hizmetli anlamına gelen “Robota”dan türetilmiştir (Naughton, 1984).

“Robotik” kavramını ise ilk kez Asimov tarafından “Runaround 1942” adlı kısa öyküsünde kullanmış, takiben 1972’de Amerika Robot Enstitüsü, robot kelimesini “çeşitli fonksiyonları yapabilmek üzere programlanmış, nesnelere hareket ettirmek için tasarlanmış yeniden programlanabilir, çok işlevli bir manipülatör” olarak tanımlamıştır (Asimov, 2010). İlk olarak Unimation Inc. tarafından 1961 yılında Unimate isimli endüstriyel robot geliştirilmiş ancak insan hareketlerinin yerini alacak robotik bir kol konsepti, Programmable Universal Manipulation Arm (PUMA)’ın icadıyla tıp literatürüne girmiştir. Cerrahi girişimlerde robotların bilinen ilk kullanımı 1978 yılında Victor Scheinmann tarafından geliştirilen, cerrahide bilinen ilk robotik kol olan PUMA 560 (Şekil 1) ile Kwok ve arkadaşlarının bilgisayarlı tomografi (BT) eşliğinde yaptığı beyin biyopsisi ve 1983 Vancouver’da geliştirilen ve kullanılan “Arthrobot”dur. (Kwok et al., 1988)

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