Development of fluroquinolones as a potent antibacterial agent

Lec. Azhar Mahdi Jasim, Merna Salah Yalda 2017

Since quinine was ﬁrst isolated, animals, plants and microorganisms producing a wide variety of quinolone compounds have been discovered, several of which possess medicinally interesting properties ranging from antiallergenic and anticancer to antimicrobial activities. Over the years, these have served in the development of many synthetic drugs, including the successful ﬂuoroquinolone antibiotics

Fluoroquinolone (FQ) has a broad spectrum of activity against several bacteria, mycobacteria, parasites, and other diseases. They are primarily used against urinary tract infections and are also clinically useful against prostatitis, infections of skin and bones and penicillin resistant sexually transmitted diseases. The targets in fluoroquinolone research during the last few years include: improvements in pharmacokinetic properties, greater activity against gram-positive cocci and anaerobes, activity against fluoroquinolone-resistant strains, and improvements in activity against non-fermentative gram-negative species.

Antibiotic drug choice will remain difficult in the presence of increasing resistance, but the introduction of the new fluoroquinolones has created a new and exciting era in antimicrobial treatment.