Cyphalosporins 1st genration cefazolin (parenteral/penetrates well into bone)( 1.8-hour half-life/ surgiries)

 -act as penicillin G substitutes Cefadroxil (oral) .

 -resistant to the Cephalexine (twice aday oral against pharyngitis.)..

 staphylococcal Penicillinase. (+)cocci-\* Staphylococcus(aureus/ epidermidis / pneumoniae / pyogenes

 -against Proteus mirabilis, Anaerobic streptococci\*\*

 E. coli, and K. pneumoniae (-)rod\* Escherichia coli/ Klebsiella pneumonia/ Proteus mirabilis\*

 -cover MSSA

 2nd generation Cefaclor . H. influenza/ Enterobacter aerogenes/ Neisseria gonorrhoeae

 cefotetan and cefoxitin also Cefotetan extra on first generation species(better gram negative)

 includes the anaerobe Cefoxitin staphylococcus epidermidis is lost from first generation

 Bacteroides fragilis. Cefprozil (weaker gram positive)

 Cefuroxime with sodiium > parenteral/ longer half-life/ used for communityacquired . . axetil > twice daily oral(penicillase resist bronchitis or pneumonia in the elderly

 3rd generation Cefidinir (oral qd) Serratia marcescens/Pseudomonas aeruginosa(inhanced(-))

 Cifixime (oral qd) staphylococcus aureus is lost(weak(+))

 -against MSSA Cefotaxime (penetrates CSF)

 associated with " Ceftazimide(against Pseudomonas aeruginosa)

 collateral damage," Ceftibuten (longest half-life (6 to 8 hours))/ in blood and CSF/Neisseria gonorrhoeae)

 used with caution Ceftizoxime

 -CSF Ceftriaxone (in bile excereted)(patiens with renal insuffiency)

 4th generation cefepime (must be administered parenterally/ active against streptococci and staphylococci

 E. coli/ K. pneumonia/ P. mirabilis/ P. aeruginosa.

 5th generation ceftraoline

-Cephalosporins have the same mode of action as penicillins, and they are affected by the same resistance mechanisms. However, they tend to be more resistant than the penicillins to certain β-lactamases.

-Commercially available cephalosporins are ineffective against MRSA, L. monocytogenes, Clostridium difficile, and the enterococci . - Cephalosporins have been classified based on their bacterial susceptibility patterns and resistance to β-lactamases . طردي

- susceptible to extended-spectrum β-lactamases (ESBLs)-( E. coli and K. pneumonia)

- if I didn’t mension its (IV /IM).

- All cephalosporins cross the placenta.

- Elimination occurs through tubular secretion.

- doses must be adjusted in cases of severe renal failure

-adverse effect >Allergic manifestations:

-with caution in individuals who are allergic to penicillin

-highest allergic cross sensitivity is between penicillin and first generation cephalosporins.