Chlamydia & Warts Treatment

Drugs	MOA	Dosage	Uses	Side effect	
Treatment of Chlamydia **a.Doxycycline (Vibramycin) (cure rate: 98%)**	A tetracycline antibiotic. **MOA:** protein synthesis inhibitor. **1st choice.**	**Dosage:** 100 mg po twice a day for 7 days for urogenital chlamydial infection.	**Uses:** chronic prostatitis, sinusitis, syphilis, Chlamydia, PID, acne, & Rickettsial infections.	Nausea vomiting & diarrhea. Permanent teeth staining & bone abnormalities Overgrowth of fungal infections in the GIT due to inhibition of normal flora. **contraindicated** during **pregnancy** & **breast feeding**.	
b.Azithromycin (Zithromax) 97% exensive Bacterostatic	Macrolide, inhibits RNA-dependent **protein synthesis** of the bacteria by binding to the ribosomal subunit **50S rRNA**. **Uses:** middle ear infections, tonsillitis, throat infections, laryngitis, bronchitis, pneumonia, typhoid & sinusitis. Urethritis (STD), Chlamydia & gonorrhea & cervicitis. Chronic persistent genital chlamydia.	**Orally** easy absorption → need 2-3 hrs to peak conc. The conc. in tissues can be 50 times higher than in plasma. This is due to ion trapping & the high lipid solubility (Volume of distribution is too low). Following a single 500 mg dose → T1/2→11–14 hrs (long). 35% of **azithromycin** is metabolized in the liver, excreted in bile & unchanged in urine **Dosage:** 1 g in a single dose..		**GIT:** diarrhea, N&V, abd pain. Nervousness, dermatologic reactions, & anaphylaxis. **Pseudomembranous colitis** occur during or after therapy. Interfere with control pills. Has bad taste → children. I.V over dose → heart block → encephalopathy.	**Contraindication**: hypersensitivity to macrolide antibiotics.
Alternative regimens: Erythromycin (95% efficacy): Cheap, used in pregnancy disadvantages: 4 times daily & causes GIT disturbances.	Macrolide antibiotic. **Used** for people who have an allergy to penicillins. **Dosage:** 500 mg 3 times daily for 7 days.	Displays bacteriocidal activity, in particular, at higher concentrations. **Inhibits protein synthesis** & subsequent structure & function processes critical for life or replication of the bacteria by binding to the **50S subunit** of the bacterial rRNA complex. This interferes with the production of functionally useful proteins.	Orally will be inactivated by gastric acid, so given as enteric-coated or more-stable salts or esters, such as erythromycin ethyl succinate. Very **rapidly absorbed**, & diffuses into **most tissues** & **phagocytes**. Due to the high conc. in phagocytes, **erythromycin** is actively transported to the site of infection, where, during active phagocytosis, large conc. of **erythromycin** are released. Most of erythromycin is metabolized by demethylation in the liver. Elimination in bile. T1/2→ 1.5 hours.	**GIT** disturbances: diarrhea, N&V, abd pain. **Arrhythmia** & reversible deafness. Allergic reactions range from urticaria to anaphylaxis. Long course of erythromycin & also through breast feeding has been linked to an ↑probability of **pyloric stenosis** in young infants.(this stenosis lead to repeated vomiting) **hepatotoxicity** in pregnant women in the form of elevated serum glutamic-oxaloacetic transaminase. On the **CNS**, causing psychotic reactions, nightmares & night sweats. Affect oral contraceptive.	Erythromycin inhibits the CYP3A4 isoenzyme → affect statins & warfarin will ↑. Others: ergotamine, verapamil or diltiazem or theophylline are also contraindicated.

Treatment of warts **Acyclovir (Aciclovir)**	A guanosine analogue antiviral drug used for **HSV 1 & 2** infections, as well as in the treatment of herpes zoster (shingles). extremely selective & low in cytotoxicity.	MOA: It is selectively converted into acyclo-guanosine monophosphate (**acyclo-GMP**) by viral thymidine kinase. Acyclo-GTP is a very potent inhibitor of viral DNA polymerase; acyclo-GTP is incorporated into viral DNA, resulting in chain termination.	Has poor oral bioavailability (15-30%), hence IV administration is necessary if high conc. are required. When orally administered, peak plasma conc. occurs after 1–2 hours. Aciclovir has a high distribution rate; only 30% is protein-bound in plasma. Administered as oral tablet, cream & IV injection. The elimination half-life of aciclovir is approximately 3 hours. It is renally excreted.	N&V, diarrhea & headache. In **h**igh doses, **hallucinations**.
Famciclovir	A guanine analogue antiviral drug used for the treatment of various **herpesvirus infections**, most commonly for herpes zoster. It is a prodrug form of penciclovir with improved oral bioavailability.	Used for the treatment of herpes simplex virus 2 (genital herpes) & orolabial herpes (cold sores). Suppression of recurring episodes of HSV2. **Treatment of recurrent** episodes of HSV in HIV patients.	Mild to extreme stomach upset, headaches, mild fever.	

Medical Treatment of Warts	Preparation & MOA	ADRs
Podophyllin resin (Podofin) & **Podofilox (condylox)**	both applied topically **Have antimitotic activity, destroy warts, & inexpensive.**	**Local irritation & pain.**
Trichloroacetic acid (TCA) or bichloroacetic acid	topically applied:	**Incomplete response, recurrence is high & may cause pain & burning**
5-Fluorouracil	applied as a cream (**antimetabolite**; **anticancer**)	**Has long treatment time, can cause burning & irritation.**
Imiquimod	Cream. It is **an immune enhancer**, stimulate production of interferon & other cytokines.	**Local skin irritation.**
Other Type of Treatment **Cryotherapy**	Freezing the wart by liquid nitrogen or cryoprobe. Used as **first line** treatment because response rates are high with **few side effects**.	It is not **recommended to treat vaginal** warts because of the risk of vaginal perforation.
Laser	Used for **larger** & extensive or **recurrent** genital warts. The laser destroys HPV-induced lesion.	Disadvantages: high cost, ↑healing time, & scarring.
Surgery	Cutting the warts away with local anesthesia. Usually done when the warts are small in size & number.	

Treatment of warts in pregnancy:
Liquid nitrogen cryosurgery is safe for pregnancy.
Topical TCA (**Trichloroacetic acid**) for vagina can be applied.