

ANENE CHINAZA SOPHIA

15/MHS06/016(CARRY OVER)

Medical laboratory science

500level

CHLORAMPHENICOL

Chloramphenicol is prescription intravenous antibiotic for treatment of serious infections and systemic infections.

Chloramphenicol is an antibiotic useful for the treatment of a number of bacterial infections. This includes use as an eye ointment to treat conjunctivitis, orally or intravenously. It is also used to treat meningitis, plague, cholera, and typhoid fever. Monitoring both blood levels of the medication and blood cell levels every two days is recommended during treatment.

Mechanism of action

Chloramphenicol is lipid-soluble, allowing it to diffuse through the bacterial cell membrane. It then reversibly binds to the L16 protein of the 50S subunit of bacterial ribosomes, where transfer of amino acids to growing peptide chains is prevented thus inhibiting peptide bond formation and subsequent protein synthesis.

Toxicity

Oral, mouse: LD50 = 1500 mg/kg; Oral, rat: LD50 = 2500 mg/kg. Toxic reactions including fatalities have occurred in the premature and newborn; the signs and symptoms associated with these reactions have been referred to as the gray syndrome.

Symptoms

Symptoms include; abdominal distension with or without emesis, progressive pallid cyanosis, vasomotor collapse frequently accompanied by irregular respiration, and death within a few hours of onset of these symptoms.

Indication for use

The original indication of chloramphenicol was in the treatment of typhoid, but the now almost universal presence of multiple drug-resistant *Salmonella typhi* has meant it is rarely used for this indication except when the organism is known to be sensitive.

In low-income countries, the WHO no longer recommends oily chloramphenicol as first-line to treat meningitis, but recognizes it may be used with caution if there are no available alternatives.

Side effects requiring immediate medical attention

Along with its required effects, chloramphenicol may cause some side effects. Although not all of these side effects may occur, if they do occur they may need medical attention.

It is advisable stop taking chloramphenicol and get emergency help immediately if any of the following effects occur:

Common Side Effects

- In babies only

- Bloated stomach
- drowsiness
- gray skin color
- low body temperature
- uneven breathing
- unresponsiveness

Less common Effects

- Pale skin
- sore throat and fever
- unusual bleeding or bruising
- unusual tiredness or weakness (the above side effects may also occur up to weeks or months after you Stop taking chloramphenicol)

Rare Side Effects

- Confusion, delirium, or headache
- eye pain, blurred vision, or loss of vision
- numbness, tingling, burning pain, or weakness in the hands or feet
- skin rash, fever, or difficulty in breathing

Side effects not requiring immediate medical attention

Some side effects of chloramphenicol may occur that usually do not need medical attention.

These side effects may stop occurrence during treatment as your body adjusts to the medicine. They are;

- Diarrhea
- nausea or vomiting