

# Antibiotics: Friend or Foe

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**Abstract:-** The antibiotics effective against the infections caused by the microorganisms, a number of the antibiotics area unit effective against several sorts of diseases, they will save the life, they will kill the bacterium at intervals the body, they're used as medication to combat numerous diseases that are caused by the harmful microorganisms. The antibiotics don't hurt different traditional body cells, it's attainable to treat the diseases by the antibiotics that were fatal before the event of antibiotics, The prescribed antibodies will hurt the disease-causing the microorganisms however the antibiotics are developed to attack the human cells for the treatment of cancer. Macrolide antibiotics area unit powerfully germ-killing medicines, they need been regarded among the best-tolerated antibiotics for pretty much fifty years, they need broad medicine spectrum, they're easy to use that have convenient dosing regimes and that they are used daily or doubly dosing regimen. Antibiotic facet effects square measure approached best from a personal agent perspective instead of from a class-related stand. As this text indicates, with the exception of drug fevers and drug rashes, most antibiotic facet effects square measure associated with individual agents and not category facet effects. Clinicians ought to read antimicrobial facet results as associated with every organ system and remember that additional usually a nonmicrobial medication is that the rationalization for the drug facet effect instead of the antimicrobial. Nonantimicrobial medications square measure the foremost common explanation for drug fever; among antimicrobials, beta-lactams and sulfonamides square measure the foremost common causes of drug-induced fevers. Antimicrobial facet effects have vital implications for the patient, legal and economic implications for the MD. Antibiotic facet effects that prolong hospitalization in today's managed care surroundings have vital economic implications. Clinicians ought to be conversant in the foremost common facet effects of the foremost oft used antimicrobials, to attenuate the potential of getting adverse reactions occur in patients. Most adverse events associated with antimicrobials square measure reversible quickly on surcease of the medication. Irreversible toxicities embrace aminoglycoside-induced ototoxicity, Stevens-Johnson syndrome, and toxicity secondary to bactericide. the foremost common acute fatal drug reactions embrace hypersensitivity reactions leading to hypersensitivity reaction or the Stevens-Johnson syndrome and fatal internal organ death secondary to trovafloxacin.

**Clinicians ought to eliminate the utilization of medication related to chronic or fatal toxicities as a result of multiple therapeutic alternatives exist for nearly each potential infection. Does advantages outweigh disadvantages?**

**Keywords:-** Macrolide, Adverse Events, Antibiotic.

## I. INTRODUCTION

Antibiotics are used to treat or prevent some bacterial infections. Antibiotics are made by microorganisms, that by selection suppress the growth of or kill alternative microorganisms at terribly low concentrations. This definition excludes other natural substances that conjointly inhibit microorganisms but area unit made by higher forms (e.g. antibodies) or maybe those made by microbes but area unit required in high concentrations. Doctor prescribe antibiotics to cure bacterial infections and is not effective against viruses. Antimicrobial drugs ar the best contribution of the twentieth century to medical specialty. Their advent changed the outlook of the doctor regarding the power medicine will wear diseases. they're one of the few medicine which might cure, and not simply palliate sickness. Their importance is enlarged in the developing countries, wherever infective diseases predominate. As a class, they're one of the foremost often used similarly as victimized drugs. Antibiotics can be classified many ways that is on the basis of chemical structure, mechanism of action, type of organisms against which primarily active, spectrum of activity, type of action, antibiotics are obtained from.

## II. ADVERSE EFFECTS

### A. Digestion Problems

It is one of the most reported side effects of consuming antibiotics. These side effects are mild and should pass once you stop taking antibiotics.

Mild side effects of antibiotics on digestive system can be:

- Vomiting
- Nausea
- Diarrhea
- Bloating
- Indigestion
- Abdominal pain
- Loss of appetite

Severe side effects of antibiotics on digestive system can be:

- Blood or mucus in stool
- Severe diarrhea
- Intense stomach cramping or pain
- Fever
- Uncontrollable vomiting

#### B. *Pseudomembranous Colitis*

Pseudomembranous colitis, additionally referred to as antibiotic-associated colitis or *C. difficile* colitis, is inflammation of the colon related to antibiotic overgrowth of the bacteria *Clostridium difficile* (*C. diff*). This overgrowth of *C. difficile* is usually associated with a recent hospital stay that enclosed antibiotic treatment. *C. difficile* infections are additional common in individuals over sixty- sixty five years old.

Symptoms of pseudomembranous colitis will begin as shortly jointly to 2 days when you begin taking antibiotic, or as long as many months or longer when you end taking the antibiotic.

Treatment of pseudomembranous colitis is typically productive. However, even with prompt identification and treatment, pseudomembranous colitis may be critical. potential complications include:

**Dehydration:** Severe diarrhea will result in a big loss of fluids and electrolytes. This makes it troublesome for your body to perform usually and might cause vital sign to drop to hazardously low levels.

**Kidney failure:** In some cases, dehydration will occur therefore quickly that urinary organ perform quickly deteriorates (kidney failure).

**Toxic colon:** During this rare condition, your colon is unable to expel gas and stool, inflicting it to become greatly distended (megacolon). Left untreated, your colon might rupture, inflicting bacterium from the colon to enter your bodily cavity associate enlarged or burst colon needs emergency surgery and will be fatal.

**A hole in your intestine:** This can be rare and results from in depth injury to the liner of your intestine or once cyanogenic colon. A perforated intestine will spill bacterium from the gut into your bodily cavity, resulting in a critical infection (peritonitis).

**Death:** Even delicate to moderate *C. difficile* infections will quickly accomplish a fatal malady if not treated promptly.

#### C. *Antibiotic Resistance*

Antibiotic resistance happens once germs like bacterium and fungi develop the power to defeat the medication designed to kill them. which means the germs

don't seem to be killed and still grow. Infections caused by antibiotic-resistant germs are unit tough, and typically not possible, to treat. In most cases, antibiotic-resistant infections need extended hospital stays, extra follow-up doctor visits, and expensive and toxic alternatives.

Antibiotic resistance doesn't mean the body is turning into proof against antibiotics; it's that bacterium became proof against the antibiotics designed to kill them. Antibiotic resistance will increase once resistant bacterium are unfold among humans, animals and therefore the setting, or once the resistance genes transfer between bacterium. Antibiotic-resistant bacterium can typically become established among traditional microorganism flora, for instance within the stomach. individuals then become carriers of resistant bacterium. Carriers might not become sick however will contribute to the more unfold of antibiotic resistance.

#### D. *Hypersensitivity*

Some antibiotics made the skin more sensitive to light. These reactions are unit the major drawback within the use of penicillins. An incidence of 1–10% is according. people with an allergic predisposition are unit additional susceptible to develop penicillin reactions. Penicillin is that the commonest drug concerned in drug allergic reaction, owing to that it has much nonexistence from use generally practice. Frequent manifestations of antibiotic allergic reaction are—rash, itching, hives and fever. Wheezing, angioneurotic lump, serum disease and exfoliative dermatitis are unit less common. hypersensitivity reaction is rare (1 to four per ten,000 patients), but may be fatal.

All varieties of natural and artificial penicillins can cause allergic reaction, however it's additional ordinarily seen when epithelial duct than oral administration. Incidence is highest with Ethocaine penicillin: procaine is itself matter. The course of antibiotic hypersensitivity is unpredictable, i.e. a personal World Health Organization tolerated antibiotic earlier may show allergic reaction on ensuing administration and the other way around. There is partial cross sensitivity between different types of penicillins; a personal World Health Organization has exhibited immediate sort of hypersensitivity—urticaria, angioedema, spasm, hypersensitivity reaction or serum disease with one antibiotic should not tend the other sort of antibiotic. However, if the sooner reaction had been solely a rash, antibiotic is also given cautiously—often no untoward impact is seen. History of antibiotic allergy should be evoked before injecting it. A scratch test or subcutaneous test may be performed initial. On occasions, this itself has caused fatal hypersensitivity reaction. Testing with benzylpenicilloyl- polylysine is safer. However, a negative subcutaneous test doesn't rule out delayed hypersensitivity. It ought to even be realised that presence of antibodies to antibiotic does not mean allergic reaction to that, as a result of much everyone World Health Organization receives antibiotic develops antibodies to that.

### *E. Interactions*

Antibiotics can effect in different way than presumes because of the interaction of antibiotics with food or any other drug. Some antibiotics ought to be taken with food, whereas others ought to be taken on an empty stomach. always read the patient data leaflet that comes along with your medication. Antibiotics can interact with following:

Alcohol: It's recommended to avoid alcohol 48 hours before and after the consumption of antibiotics otherwise symptoms can be:

- Stomach pain
- Headache
- Nausea

Contraceptive tablets: Several antibiotics interfere with the effectiveness of antibiotics.

### **III. CONCLUSION**

Medical field has developed a lot in the last century. Despite a high level of knowledge of antibiotics and antibiotic resistance in the contemporary world, there are obvious knowledge gaps. Nevertheless, there are some side effects of antibiotics that are inevitable and working on these ought to be crucial to develop the antibiotics to help the mankind. Action should be taken to increase the knowledge level.

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