

NAME: Uzama-okpalaeke A. Emmanuella

MATRIC NUMBER: 18/MHS02/210

DEPARTMENT: Nursing sciences

COURSE: Systemic Pharmacology in Nursing Practice

COURSE CODE: PHA 324

ASSIGNMENT: Classification of Antimalarial With Examples.

CLASSIFICATION OF ANTIMALARIAL

1. 4-Aminoquinoline:

Is a form of aminoquinoline with the amino group at the 4-position of the quinoline. The compound has been used as a precursor for the synthesis of its derivatives. Chemical formula- $C_9H_8N_2$. It appears in powder to crystalline white or yellow or orange. It causes skin and eye irritation. It is used as an Antimalaria agent useful in treating Erythrocytic Plasmodial Infections.

Examples

- Chloroquine
- Amodiaquine
- Hydroxychloroquine.

2. 8-Aminoquinoline:

Is the 8-amino derivative of quinoline. It is structurally analogous to 8-Hydroxyquinoline. The two nitrogen atoms are ideally situated to form complexes with metal ions. Derivatives of 8-aminoquinoline are effective directing groups in organic synthesis.

Examples

- Primaquine
- Tafenoquine
- Bulaquine

3. Cinchona Alkaloids:

Is a genus of flowering plants in the family Rubiaceae containing at least 23 species of trees and shrubs. Cinchona has been historically sought after for its medical value, as the bark of several species yields Quinine and other Alkaloids that were the only effective treatments against malaria during the height of European colonialism.

Examples

- Quinine
- Quinidine

4. Quinoline Methanol:

This type of antimalaria is a compound that inhibits the growth of drug sensitive and resistant strains of *Plasmodium falciparum*.

Example

- Mefloquine

5. Biguanides:

Is the organic compound with the formula $\text{HN}(\text{C}(\text{NH})\text{NH}_2)_2$. It is a colorless solid that dissolves in water to give highly basic solution. These solutions slowly hydrolyze to ammonia and urea.

Example

- Proguanil
- Chlorproguanil

6. Sesquiterpene Lactones:

Are a class of Sesquiterpenoids that contains a lactone ring. They are most often found in plants of the family Asteraceae (daisies, asters). Other plant families with SL are Umbelliferae (celery, parsley, carrots) and Magnoliaceae (magnolias). Sesquiterpene Lactone is a collection of colorless, lipophilic solids. SLs are a rich source of drugs.

Examples

- Artesunate
- Artemether
- Arteether

7. Diaminopyrimidines

Examples

- Pyrimethamine

8. Antibiotics

Examples

- Tetracycline
- Doxycycline

9. Amino alcohols

Examples

- Halofantrine
- Lumefantrine

10. Naphthoquinone

Examples

- Atovaquinone

11. Sulfonamides & sulfone

Examples

- Sulfadoxine
- Dapsone
- Sulfamethopyrazine

12. Naphthyridine

Examples

- Pyronaridine