

ABSTRACT

In comparing the antimicrobial strength of three most common antibiotics, which includes: streptomycin chloramphenicol and gentamicin.

Samples of urine and high vaginal swab (H.V.S) were collected from park lane Enugu. The organisms isolated were pure culture of staphylococcus aureus and Escherichia coli

Sensitivity test was carried out with the use of sensitivity disk containing various minimum inhibitory concentration of the different antibiotics.

The result obtained showed that gentamicin was more effective followed by chloramphenicol while some organisms showed resistant to streptomycin.

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INTRODUCTION

1.1 HISTORICAL BACK GROUND

Antibiotics are chemicals when the chemical are put into the body; they stop the growth of kinds of germs. They help the body to fight diseases. More than 3,000 years ago ancient people stumbled over the discovery that some moulds could be used as a cure. The Egyptians, the Chinese, and Indians of central America would use mold to treat rashes and infected wounds. At that time they didn't understand either diseases or treatment. As time went on, people began to gain some insight of disease. In the 1860s Louis Pasteur showed that many diseases were caused by bacteria. Later he discovered that we may be able to fight germs and other microbes. It was two German doctors, who were first to make an effective medication from microbes. Kudoif and Emmerich and Oscar has conducted their experiment in the 1890s. They proved that germ that would for another. All the men did was to take the germ from infected bandages and grow them in a test tube. They would then isolate a particular germ that caused green in fractions in open wounds. This germ was bacteria called *Bacillus pyocyaneus*. They put them into another test tube containing other type of bacteria, it was then it happened that the *Bacillus pyocyaneus* wiped out the other disease germ. The germs that was killed were those that caused cholera, typhoid, diphtheria and anthrax. From this the two men created a medication that they called pyoanase, it was the first antibiotics used in hospitals.

In 1928 Alexander Fleming, a Scottish scientist, discovered penicillin, the first antibiotics. He was keeping in a petri dish when a speck of mold fell in, it caused the mold to grow on the nutrient agar used to feed the bacteria. Surprisingly, it stopped the growth of the bacteria. Fleming through the mold called penicillin notatum produced a substance that killed the bacteria and so called it penicillin. However, he was not able to extract it from broth in which he grew the mold.

In 1945, Waksman used the word antibiotics for the first time and proposed that it can be defined as a chemical substance of microbial origin that possesses antibiotic powers. He discovered a drug called streptomycin. It originated from microbes found in soil and was a cure for many intestinal diseases. Now antibiotics like penicillin and streptomycin were discovered. Each was effective against certain disease, but scientists wanted more. Doctors however, wanted broad spectrum drug. That is a single antibiotic that could cure many diseases.

This search proved successful as one laboratory discovered Aureomycin, which is a drug that does the job of penicillin and streptomycin. Another laboratory discovered chloromycin.

In 1949, yet another laboratory came with one of the effective antibiotics ever found, terramycin. This drug could be used against many bacterial diseases (Katzung, 1994).

1.2 AIMS AND OBJECTIVE

1. To identify causative organisms that are deleterious to man's health.
2. To determine the potency of the different antibiotics.
3. To know the type of organism sensitive to the different antibiotics.

1.3 HYPOTHESIS

- H_0 - Streptomycin is more effective
- H_1 - Streptomycin is not effective
- H_2 - Chloramphenicol is not effective
- H_3 - Chloramphenicol is not effective
- H_4 - Gentamicin is more effective
- H_5 - Gentamicin is not effective
- H_6 - Comparing the strength of the three antibiotics.

1.4 STATEMENT OF PROBLEM

Due to the problem encountered in Enugu Urban (Obiagu), most people abuse antibiotics owing to the general belief that antibiotics can be used in the treatment of all kinds of diseases. This can result to drug resistance. Accumulation of these drugs can lead to internal damage. Hence this study which compares the antimicrobial strength of three antibiotics.

1.5 SCOPE OF STUDY

This work will be limited to the maximum inhibitory concentration and know the organisms sensitive to the different antibiotics under certain temperature.

1.6 LIMITATION OF STUDY

Limited time in making research for the project work.

2) Inharailability of equipment and reagents in the course of carrying out the work.

Comparative analysis of anti-microbial strength of three most common antibiotics used in Enugu

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