

Antibiotic and the future

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It was 1928, when Alexander Fleming, a Scottish biologist had added a new evolutionary step in medicine development. Yes, it was the year when the “Antibiotic” was discovered first. Alexander Fleming had accidentally isolated some toxic substances from specific fungi named “Penicillium Notatum”. But the surprising matter was that, the toxin was threatening only for the bacteria or pathogens not for the animals. Antibiotic is mainly any chemical substance which kills the bacteria (Bactericidal antibiotic) or resist the multiplication (Bacteriostatic antibiotic). But in broad sense, when the chemical can kill or inhibit not only bacteria rather can act on other pathogens like; fungi, protozoa etc is known antimicrobial. Now before going to the future let’s have a look on present. If we look the data of 2012 from WHO (World Health Organization) approximately 56 million people died on that year. And among those people 32% was died from infectious disease. In this infectious disease we can count the malaria, tuberculosis and AIDS as main. And each year these diseases can cause 300 million illness and 5 millions of death. Reason behind all of this infectious disease is the microorganisms or known as pathogens. And the only way to get rid of these pathogens is antibiotics.

Once Bangladesh was in a threat of TB (Tuberculosis) and 70,000 deaths were occurred per year in South Asian region till 2006. But the successful antibiotic use made Bangladesh to give a significant result to decline the rate of TB in 2000 to 2013. Antibiotics are needed from normal flu to different kinds of life threatening disease. So it is very simple without antibiotic our survival will be in a big question. Then if we want to know about the future, what is going to be the future of the antibiotics? Yes this is a burning question of modern medical science. And a new term raised “Antibiotic Resistance” a big challenge for human survival.

Antibiotic resistance is the ability of the microbes to get resistant of the chemicals. Basically pathogens can do this by mutation on cell wall or in nucleus. Like once penicillin was the evolutionary antibiotic but now it becomes useless and out of work. And day by day the number mutant bacteria are raising and antibiotic are losing the ability to resist the organisms. This resistance can lead the disease to increased recovery time, not significant response or can make no effect on bacteria as a result the death occurs. Once when one strain of bacteria gets resistant it can spread out through environment. And cause of disease which will not responsive to antibiotic. Mainly for two reasons the antibiotic resistance can occur. First, when a patient doesn’t complete the total dose of antibiotic therapy. And second the rapid prescribing of antibiotic. It is important to know that more the use of antibiotic in non-systemic way, the more the chance of antibiotic resistance. It is estimated that if the random use of antibiotic is not reduced and the new drug development is not possible then we have to face an era where people will die due to normal flu. Now it is time to take some responsibilities for both community people and physicians. For the patient, time and dose must be followed carefully. And for the physician, prescribing should be done according to the need of the patient. As this issue is rising day by day and we can’t think our existence without antibiotic, it is very important to create awareness in the use of antibiotic.

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