



REVIEW ARTICLE

Use and Abuse of Antibiotics

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ABSTRACT

Antibiotics have been contributed enormously to the effectiveness of medical interventions in health and to the life expectancy of human beings. The discovery of safe, systemic antibiotics has been a major factor in the control of infectious diseases and such, has increased life expectancy and the quality of life for millions of people. Many worldwide strains of bacteria's exhibit resistance to all medically important antibacterial drugs due to the abuse of antibiotics, while human consumption of antibiotics bears primary responsibility for the development of resistance in human pathogens. Indiscriminate and inappropriate use of antibiotics resulted in rapid increase and speed of antimicrobial resistance. The reasons for drug pressure are multi-factorial and involve both human and animal use.

KEYWORDS

Abuse, antibiotics, resistance, mutation, antibacterial.

INTRODUCTION

Following the introduction of penicillin into human's therapeutics in 1940's and throughout the past 60years, antibiotics have been used and misused. Developed originally to treat human infectious diseases, their properties in veterinary, animal and plant agriculture and aquaculture were applied soon thereafter. Information about pattern of usage of antimicrobial drug is necessary for a constructor approach to the many problems that arise from the multiplicity of the antibiotics now available their high cost and ecological sequel of their use¹. However if prescribes do not follow the principle of good prescription, it becomes very difficult to keep pace with the rapid emergence of resistance strains.

It is shorting that health professionals, who should know better, often participate in the careless use of antibiotics, taking or prescribing them for uncomplicated colds, even when appropriate, for shorter than the ideal period of proper therapy often inadequate doses². Their review attempts to bring together information on antibiotics usage published in divers sources, as well as to outline some problems related to antibiotics usage that safer to that personalities of patients and prescribes rather than to the drugs themselves.

Development and Drug Resistance

Along with the dramatic benefits of systemic antibiotics there also has an explosion in the number of bacteria that have become resistant to a variety of these drugs. The problems are not the antibiotics themselves. They remain one of medicine's most potent weapons against diseases instead; the problem is in the way the drugs are used. The inappropriate over use of antibiotics had resulted in a crisis situation is

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due to bacterial mutations developing resistant strains³. Strains of worldwide *Staphylococcus aureus* exhibit resistance to all medically important antibacterial drugs, including vancomycin, and methicillin. *S.aureus* has become one of the most frequent nosocomial or hospital acquired pathogen. The rates at which bacteria develop resistance to antibacterial drugs is alarming. Demonstrating resistance soon after new drugs has been introduced⁴. This rapid development of resistance has contributed significantly to the morbidity and mortality of infectious disease, especially nosocomial infection.

Antibiotics Use in Hospital

Despite change in the number and type of antibacterial available between 28% and 42% of patients in hospital received at least one antibacterial ampicillin has usually been the most used compound followed by a cephalosporin, a biosynthetic penicillin and a tetracycline in that order. Fever in patients raise co-trimoxazole⁵ or an anti staphylococcal semi synthetic penicillin.

Out Side Hospital Use

Antibiotics given to out patients, as here hospital doctors prescribing for non-hospitalized patients. Pattern of antibacterial usage in this case differ both from there an observed in hospital and in general practice. Tetracycline (39%) was followed by erythromycin (19.5%) ampicillin (13.5%) and trimethoprim alone and a combination⁶.

Appropriate Use of Antibiotics

Antibiotics are probably employed only for the measurement of active infectious diseases or the prevention of metastatic infection, infective endocarditis in medically high risk patients. Bacterial resistance has evolved with the increased number, volume, and diversity of antimicrobial applications⁷. As new drugs were introduced clinically, resistance strains were identified relatively soon after many if there resistance bacteria are not obligate pathogens, being part of the indigenous micro flora. However given the right association, such as

immuno compromised patients and the use of antibiotics these organisms have the potential to cause life threatening disease.

Misuse of Antibiotics

People often take a tablet, a capsule or two to stop cough, cold or a feeling of malaise This results in resident bacteria of their skin and respiratory and gastrointestinal tract becoming resistant to all antibiotics abused, and their resistance can be transferred to usually sensitive pathogenic, thus making more deadly. Antibiotics are often given when the diagnosis is not known consequently most infections contacted in our hospital are resistant to most antibiotics⁸. The situation is so bad that very often the neglected and forgotten first line drugs become most effective.

Over Prescribing

The main cause of over prescribing is the pressure placed on the doctor from various sources to do something positive for the patient. A second reason is that giving a patient antibiotics relieves the fear the clinician has that he may have overlooked a possible bacterial infection which would respond to antibiotics. Third reason is that patient expects medicines when they are ill and have come to regard receiving them as social right. Merely asking the prescriber to justify his prescription caused a marked reduction in the consumption of potentially toxic or expensive antibiotics⁹. Discrimination of information about drugs however no effect had and further showed that effective education in matters relating to antibiotics prescribing requires the intervention of a physician as counselling agent. A discussion of the merits of the various methods by which antibiotics prescribing may be controlled is beyond the scope of the present review.

Patient Compliance

Failure of patients to take medication as instructed is by its very nature whose size cannot be quantified accurately. It is ironic that the over prescribing habits of the medical profession may partially neutralize the problem

posed by non compliance failure of comply may endanger health or even life. It may also upset result of clinical trials and thus cause the value of a new drug to be wrongly assessed¹⁰. This applies specially to drugs intended for long term use, which are associated with a particular high risk of non-compliance. The pharmacist dispensing the drug can play a crucial role in improving compliance; unfortunately, increased knowledge about the drug on part of patient does not improve compliance.

Self Medication

Non compliant patients will be left in the tablets in the bottle. This predisposes to self medication with the antibiotics; patients fail to understand what antibiotics are supposed to do for them. Even in developed countries where doctors not indulge in such indiscipline because of better supervision by consultants and the danger of litigation superbug's organisms resistant to nearly all available antibiotics to do occasionally merge. Superbugs often look in the hospitals unrecognised because of minimal or not existent supervision.

CONCLUSION

It should be possible to re-educate medical practioner in the use of antibiotics. Practical experience in the use of antibiotics has sometimes been encouraging, sometimes not. These are positive signs that the public is becoming more interested in a subject and perhaps more informed, in view of increased amounts of comments in medias. Compliance can be improved but there are many conflicting how can be achieved.

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