

mine antibiotic susceptibility for specific antimicrobial therapy, if maximal opportunity for cure is to be attained.

The point I am making here is that in most of the bacterial infections, if you recognize the organism, a single antibiotic can be administered and there is no advantage therapeutically to using any prefixed combination.

There are some antibiotics—and there are some infective agents—as to which one we cannot be so predictive, but we must have information which comes from the laboratory in order to guide the physician in choosing a single antibiotic or multiple antibiotics that he is going to use, if he is to achieve maximum cure.

None of these combinations have any effect against viruses, which cause most of the infections in the United States.

Now, the use of unnecessary drugs when prefixed combinations are used.

When a single drug is maximally effective there is no logical reason for the administration of a second drug which adds nothing more to the clinical result.

However, there may be increased risk of adverse drug reactions when combinations of drugs are used, particularly when one of them is unnecessary.

The use of any drug may result in an adverse reaction in the patient. An unnecessary antibiotic in a prefixed combination can result in hazards varying from mild reactions to fatal results. Superinfection resulting during treatment with combinations of antibiotic may reach considerable magnitude.

This means that when one uses more antibiotics there is a greater elimination of the normal bacterial flora that every human carries with him and to which he is in a state of equilibrium. When one gives an antibiotic, the susceptible bacteria to which he is quite accustomed, are eliminated. He then replaces and obtains new bacterial flora which in the environment of the antibiotic which is being used, to which he now may become a victim by infection of a newcomer. This is what we mean by a superinfection. The instances of this are increased, the more antibiotic one uses. One creates what may be termed a biological vacuum when one uses antibiotics, and of course, this has some hazards.

Increased resistance of micro-organisms to antibiotics.

The acquisition of microbial resistance to antibiotics is related to the use of an antibiotic in an environment. The unnecessary use of an antibiotic as occurs with the use of prefixed combinations of antibiotics results in the appearance of resistance strains of bacteria with increased number of superinfections.

The erroneous implication of "wide spectrum" of antimicrobial effect.

Selection of a fixed combination of antibiotics, because there is a wide spectrum of antibacterial activity against a larger group of micro-organisms, indicates a lack of specificity in choosing the most effective antibiotic with a more direct specific effect against the micro-organism causing the disease. This philosophy of therapeutics may result in failure to establish an etiologic diagnosis and failure of cure until more appropriate therapy is selected.

In other words, when you need a rifle you certainly shouldn't use a shotgun. One wants specificity of action directly because of the disease.