

breakthrough in pharmacological, microbiological, and clinical science are reflected in sharply declining death rates the world over. Unfortunately, however, the plethora of new drugs and combinations of drugs may be a mixed blessing to physicians who attempt to thread their way through a maze of conflicting claims concerning such complex matters as sensitivity spectra, blood levels, potency, and safety.

Many of the new antimicrobials are clearly outstanding contributions to the art of chemotherapy and are, as such, real triumphs of pharmacological research. Others are molecular modifications of established compounds and are introduced with claims that some desired feature—such as greater potency, more rapid absorption, more sustained blood levels, reduced bacterial resistance, or fewer side effects—has been added to the more familiar properties. Since all such claims need to be viewed skeptically until they have been confirmed by impartial investigators and extended experience, compounds of this type often make only a numerical rather than a qualitative contribution to the list of available drugs, and thus add only confusion.

Other formulations offered by the pharmaceutical industry tend to make careful clinicians definitely uneasy. These include the fixed-ratio mixtures of two or more antimicrobial agents, which are said to be designed to reduce the chances of superinfection, patient sensitization, or bacterial resistance, and the formulations containing additives that are claimed to enhance absorption, delay excretion, or otherwise affect blood levels or potency. Clearly violating the principles of rational therapy are the complex combinations of antipyretics, antihistaminics, or vitamins, with minimal amounts of the antibiotic. Since the host of ingenious topical preparations—lozenges, aerosols, and ointments—appear to sensitize as often as they relieve, their value also is open to serious question. Obviously, the opportunities for misuse or even frank abuse of antimicrobial chemotherapy are rife for the unwary, and unquestionably some physicians have been guilty of misusing these agents.

With this Therapeutic Number the Council begins its sponsorship of a series of authoritative communications which should help to bring the physician up to date on individual aspects of antibiotic therapy and increase his sense of security in prescribing these agents. Ory and Yow (p 273) write about the tetracyclines and chloramphenicol, and Hewitt (p 264) differentiates the burgeoning group of penicillins from one another.

Ory and Yow stress the fact that the tetracyclines are similar in their antibacterial spectra and should always be administered singly rather than as mixtures which increase both the cost and hazard for the patient. These authors also discredit many promotional myths, such as claims for additives designed to increase absorption, reduce gastrointestinal irritation, prevent overgrowth of *Candida*, and so on, and wisely point out once again the frequently forgotten distinction between the primarily bacteriostatic and the primarily bacteriocidal drugs. Referring to the grim record of chloramphenicol as a cause of serious and fatal blood dyscrasias, they remind us that it should not be used when other antibiotics are effective, a fact which limits its specific indications to the treatment of severe salmonellosis, particularly typhoid fever.

The choice and administration of one of the many available penicillins is an art in itself, and Hewitt's refresher course is timely indeed. Although the newer ones may help to mitigate the problems of penicillinase resistance, they do not supplant the older penicillins which, as Hewitt reminds us, continue to be the drugs of choice in many clinical situations. At the same time he advocates oral administration whenever possible, and suggests doing away with the needlessly sensitizing topical and aerosol preparations altogether.

Subsequent contributions to this series will present definitive information and considered opinion on other aspects of antibiotic therapy. Perhaps it will become possible in the future to match organism, patient, and antimicrobial drug precisely; if so, all patients may one day reap the benefits of a fairly exact and predictable science. But, then and now, before prescribing any drug the physician may well reflect on Hewitt's wise admonition:

"With further contributions now being made by the molecular manipulation of all agents, the physician must more than ever make a clear decision on whether antibiotic therapy for an individual patient is necessary at all."