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Blood Dyscrasia Following the Use of Chloramphenicol

Chloramphenicol (chloromycetin®) has been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies. Its antibiotic properties are well known, and when the council accepted this product there was much evidence to demonstrate its therapeutic value. At the same time there then was little reason to believe that serious or fatal side-reactions would be demonstrated. Nevertheless, following a study of the chemical structure of the drug, the Council issued a warning at the time of acceptance even though there was meager evidence to prove that such a warning was necessary. Thus, on page 116 of New and Nonofficial Remedies, 1951, there appears the following statement:

"Changes in the peripheral blood or the blood-forming organs have been reported only during the use of chloramphenicol. Mild hemolytic anemias, granulocytopenia (no cases of agranulocytosis so far) and an arrest the maturation of the formed elements in the marrow have been described."

Recently there have been additional reports of the effects of chloramphenicol on the blood and bone marrow. At least two types of reaction have been encountered. In one there is a transient depression of the formed elements of the blood, involving red cells, white cells, and platelets during therapy with the drug. This type of reaction has been very uncommon, and in the experience of one group well versed in the field of antibiotic therapy it has seemed to occur in patients who were receiving very large doses of the drug or in patients who had renal insufficiency. The blood of these patients returned to normal, or at least showed pretreatment values, as soon as therapy with the drug was stopped, and no permanent deleterious effect was observed.

A second and more serious type of reaction that has been encountered is production of a true aplastic anemia. In the experience of one group, this anemia has occured in patients who have previously received one or more courses of chloramphenicol without untoward effect. When the drug was subsequently administered, even in small doses, a severe blood abnormality has appeared. Even deaths have been reported. Whether chloramphenicol continues to remain as one of the more useful antibiotics or whether it will be relegated to a place where its use will be confined to the treatment of patients with typhoid or serious infections for which no other therapy is available, remains to be seen. Further observations are in order. In the meantime, physicians should be on the alert for reactions following therapy with this and any other antibiotic, or in fact any of the newer drugs.

New therapeutic agents, which are being introduced with ever increasing rapidity, are characterized not infrequently by their beneficial or life-saving qualities but also by their ability to cause injury or serious side-effects. A calculated risk is involved whenever one prescribes any medication. The physician is confronted constantly with the difficult task of determining whether the use of a given drug is likely to do more good for a particular patient than any possible harm. In spite of the bast amount of laboratory and clinical study that a new drug usually undergoes before it is placed on the market, subtle or insidious toxic effects. often of a serious nature, frequently are not recognized and brought to the attention of the medical profession in general until after the drug has been on the market for some time and has enjoyed widespread clinical use. A propensity to cause injury to the hematopoietic system is particularly likely not to be generally appreciated until a new drug has undergone extensive use for a considerable period of time. Physicians who observe hitherto unreported toxic effects or injuries attributable to a recently introduced therapeutic agent have the obligation or duty of bringing this information to the attention of the entire profession. If a physician does not have the time or inclination to prepare case reports of drug injuries for publication in a medical journal, he can perform a useful service by advising the office of the Council on Pharmacy and Chemistry of the pertinent facts in such instances. By this means the Council will be provided with necessary information that may serve as the basis for an early authoritative report or warning statement.