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Accepted: March 20, 1991

Acta Haematol 1991;85:171-172

Chloramphenicol: A Dangerous Drug?

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Our laboratory interest in aplastic anemia during the past three decades has made us review etiology. Only rare cases of aplastic anemia have been associated with chloramphenicol in this area of the United States despite the ease that the antibiotic may be obtained across the border in Mexico. The reports of large consumption of chloramphenicol in Hong Kong without significant association with aplastic anemia prompted me to a review if there were a significant relationship of marrow aplasia with chloramphenicol usage [1]. Certainly, continuous high oral dosage and prolonged administration of the antibiotic is well documented to suppress the bone marrow. However, with proper scheduled medication should we anticipate a serious risk with the drug? Recent reviews of aplastic anemia [2, 3] have indicated a high percentage of incorrect diagnoses when estimates are made from death certificates or hospital records. Indeed, these reports indicate that there may be a 50% reporting error, especially if bone marrow biopsies were not reviewed or documented. The thorough study of aplastic anemia in France with careful questionnaires and biopsy data proposed an incidence of 1.5 cases per million and represents the ideal clinical survey [4].

Recent reports have indicated a concern that aplastic anemia may be associated with the use of antibiotic eyedrops; indeed, a dozen cases have been collected. With the low incidence of aplastic anemia in France it would suggest that little or no chloramphenicol was used throughout western Europe.

However, in contrast, a large amount of chloramphenicol as eyedrops has been dispensed throughout the European community for many years. In 1989 over 12 million units of 10-ml vials averaging a 0.5% concentration were dispensed [Merrill Dow Co., personal commun.]. Each unit was used daily for about 2 weeks. One may anticipate that similar amounts have been used over the past decade. This annual dosage schedule is 40 times the amount dispensed in the United States in the form of chloramphenicol eyedrops and may reflect the anxiety regarding toxicity and government regulations in this country. In The Netherlands over a 4-year period 1 person in 7.3 people used chloramphenicol eyedrops, and the investigators assumed that a similar amount was used throughout Europe [5]. Such widespread usage would suggest that hypersensitivity is not a factor when chloramphenicol eyedrops are dispensed in this amount for many years. We may anticipate that rare cases of chloramphenicol-associated aplasia will be seen, but certainly the exposure rate throughout Europe is associated with little or no chloramphenicol toxicity.

Have physicians discontinued this valuable antibiotic from their treatment programs because of inadequate clinical observations? The European data would suggest that widespread use of the

eyedrops in sensitizing dosage has not caused aplastic anemia. There is a need to collect data when chloramphenicol is prescribed to determine if the antibiotic can have wider application.

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