The Toxicity of Nonsteroidal Antiinflammatory Drugs and Antirheumatic Drugs: An Introduction

The toxicity of nonsteroidal antiinflammatory drugs (NSAID) and antirheumatic drugs is well known. As a group, they constitute one of the most common causes of reporting to adverse drug reaction agencies and are a major cause of morbidity. An appreciation of the gastrointestinal (GI) toxicity of NSAID has led to a decrease in their use worldwide, particularly for osteoarthritis. Although the potential for GI toxicity occurs with all NSAID[1], data are now emerging that suggest that a hierarchy of NSAID may occur in regard to this particular adverse event[2]. Pulmonary toxicity, hepatotoxicity, and nephrotoxicity are also seen with NSAID. Much data on adverse reaction to NSAID has come from controlled trials or postmarketing surveillance. Individual case reports will often alert the profession that a particular (peculiar) adverse drug reaction is likely to occur. More formal evaluation then needs to be instituted to assess the true incidence of the adverse reactions.

Toxicity with antirheumatic drugs is also commonly seen[3]. Adverse reactions are major reasons for a patient being unable to continue a slow acting antirheumatic drug (SAARD), and patients need to be monitored closely to reduce adverse reactions to a minimum. Data on the true incidence of adverse reactions to antirheumatic drugs are sparse and it is hard to develop appropriate guidelines for monitoring these compounds to reduce toxicity to a minimum. Adverse reactions to SAARD are much more individual than to the NSAID, but include major organ systems such as the liver, lungs, kidneys, and the bone marrow. Many SAARD act as immunosuppressives and thus potentially increase the risk of infectious complications. Longterm toxicity, such as oncogenesis, may also be a problem with some immunosuppressive drugs, and longterm followup needs to be established. The discussion in this section of these proceedings will focus on the following questions: What are the major adverse reactions to nonsteroidal and antirheumatic drugs? How do we define these adverse drug reactions in terms of their severity? How do we measure these adverse reactions? How do we improve the collection of longterm data on adverse reactions to nonsteroidal and antirheumatic drugs? Are there any toxicity indices that can be used to assess toxicity? What strategies do we need to develop for reducing toxicity to nonsteroidal and antirheumatic drugs to a minimum?

PETER M. BROOKS, MD, FRACP,
Department of Medicine,
University of New South Wales,
Darlinghurst, Australia.

REFERENCES

1. Gabriel SE, Bombardier C: NSAID induced ulcers: An emerging epidemic? *J Rheumatol 1990;*17:1–4.
2. Langman MJS, Weil J, Wainwright P, *et al:* Risks of bleeding peptic ulcer associated with individual non-steroidal anti-inflammatory drugs. *Lancet 1994;*343:1075–7.
3. Fries J: Clinical implications of the relative therapeutic toxicity of medications used to treat rheumatoid arthritis. In: Wolfe F, Pincus T, eds. *Rheumatoid Arthritis — Pathogenesis, Assessment, Outcome and Treatment.* New York: Marcel Dekker, 1994;403–13.