This Week's Citation Classic

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Mustard J F & Packham M. A. Factors influencing platelet function: adhesion, release, and aggregation. *Pharmacol. Rev.* 22:97-187, 1970. [Dept. Pathology, Fac. Medicine, McMaster Univ., Hamilton, and Dept. Biochemistry, Fac. Medicine, Univ. Toronto, Ontario, Canada]

This review article brought together most of the information about blood platelets that was available in 1970 concerning aggregation, the release of granule contents, inhibitors, morphology, and metabolism. Mention was also made of the role of platelets in hemostasis and thrombosis. [The SCI® indicates that this paper has been cited in over 665 publications since 1970.1

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"In 1938, Tocantins had reviewed all the literature on platelets up to that time and discussed such controversial issues as the origin of platelets and the role of platelets in hemostasis and thrombosis.1 Studies of platelets, however, were relatively few until the late 1950s. In that decade, a few investigators recognized that platelets were probably involved in the development of vascular disease and its complications, such as thromboembolism, and were therefore worthy of intensive study. It was during this period that I did my doctoral thesis and became interested in the role of platelets in the response of blood to vessel injury. At about the same time, interest in hemostasis broadened as it was realized that a detailed knowledge of both blood coagulation and platelet function was required.

"Between 1965, when the book The Physiology of Blood Platelets by Marcus and Zucker appeared,² and 1970, when our review was published, the information about platelets had expanded exponentially. In addition, several investigators, including ourselves, had observed that the nonsteroidal

anti-inflammatory drugs inhibited some aspects of platelet function. This observation led to considerable interest in them as agents that might modify the contribution of platelets to the complications of vascular disease. It was clear that the information that had been growing so rapidly should be brought together, and we accepted the invitation of the editor of Pharmacological Reviews to do so.

"The review probably would not have been written if Marian Packham had not joined my research group seven years earlier and become very knowledgeable about the field. Her ability to write and her passion for accurate detail ensured that the article was properly prepared. Indeed, the review was probably a good symbiosis of our talents. Writing this review was not an easy task. It consumed many evenings and parts of weekends for many months. As I recall, we worked on this review in a wide variety of settings, often under conditions that were not conducive to concentration. The editor rapped our knuckles for adding new information to the galley, but we were allowed to include it.

"Writing a review of a field in which I had been involved at the beginning of its growth, particularly as my approach covered a broad spectrum, gave me a strong advantage because I could bring together and synthesize the large amount of information that I had watched develop and to which I had contributed. This article obviously coincided with the needs of the many new investigators who were entering the field for a comprehensive coverage of the subject to serve as a base for their projects and provide references to the key findings. We have been told that the review was very useful to new investigators, and this may partly account for the number of times it has been cited. Other reasons for the frequency of citation may be that no one has attempted as comprehensive a review of platelet function in a single article since 1970 and that much of the material is still relevant."

Tocantins L M. The mammalian blood platelet in health and disease. Medicine 17:155-260, 1938. (Cited 135 times since 1955.)

Marcus A J & Zucker M B. The physiology of blood platelets: recent biochemical, morphologic, and clinical research. New York: Grune & Stratton, 1965, 162 p.