

These are the major points relevant to this study on which we would differ from Dr. Sorenson's interpretation of our work. It is somewhat difficult to respond to some of his statements because no data is given to support the claims made. For example, Dr. Sorenson challenges the widely accepted use of a protein-binding dye and proposes in its place an "absorption-induced" hyperemia; no substantiating evidence is presented. He proposes a difference in the rate of absorption of the different copper-containing species, giving as evidence only an oleyl alcohol/water partition coefficient for copper aspirinate/aspirin<sup>11</sup>. He proposes both formation and decomposition of copper complexes by sonication, again with no evidence given. Dr. Sorenson states that we neglected to report, in our survey of experiments, that he had pointed out in print<sup>12</sup> that a Rainsford and Whitehouse paper was flawed by the use of an inappropriate suspending agent<sup>13</sup>. No supporting evidence was given.

In conclusion, this challenge of our results is not a legitimate one. We believe that under the experimental conditions employed, copper aspirinate does not appear to be less damaging than aspirin. Further work is in process on the mechanism and characteristics of the gastric mucosal damage inflicted by the copper complex of aspirin as well as that of aspirin in combination with copper.

After consideration of Dr. Sorenson's concerns, as well as a review of the literature, we believe that a more thorough comparison of models is warranted. West and co-workers<sup>5,6</sup> have compared mucosal damage from aspirin and copper aspirinate in the stress-induced, Shay, and drug-induced ulcer models. A study is planned to compare these with the unstressed model in which the ulcers or erosions are caused by the presentation of the drug under study.

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<sup>1</sup> J. R. J. Sorenson, *J. Med. Chem.*, **19**, 135 (1976).

<sup>2</sup> A. A. Alich, V. J. Welsh, and L. E. Wittmers, Jr., *J. Pharm. Sci.*, **72**, 1457 (1983).

<sup>3</sup> Unpublished results.

<sup>4</sup> E. M. Renkin, *Acta Physiol. Scand.*, **463 Suppl.**, 81 (1979).

<sup>5</sup> G. B. West, *J. Pharmacol. Meth.*, **8**, 33 (1982).

<sup>6</sup> L. H. Hayden, G. Thomas, and G. B. West, *J. Pharm. Pharmacol.*, **30**, 244 (1978).

<sup>7</sup> P. G. Robins, *Br. J. Exp. Pathol.*, **61**, 497 (1980).

<sup>8</sup> J. R. Sorenson, T. M. Rolniak, and L. W. Chang, *Inorg. Chim. Acta (Lett.)*, **91**, L31 (1984).

<sup>9</sup> F. Marletta, F. Rizzarelli, A. Mangiameli, M. Alberghina, A. Brogna, S. Sammartano, S. Monaco, and A. Blasi, "XIVth International Congress on Internal Medicine," Rome, 1978, Abstr. p. 132.

<sup>10</sup> M. Alberghina, A. Brogna, A. Mangiameli, F. Marletta, E. Rizzarelli and S. Sammartano, *Il. Farmaco—Ed. Sci.*, **37**, 805 (1982).

<sup>11</sup> D. A. Williams, D. T. Walz, and W. O. Foye, *J. Pharm. Sci.*, **65**, 126 (1976).

<sup>12</sup> J. R. J. Sorenson, *J. Pharm. Pharmacol.*, **29**, 450 (1977).

<sup>13</sup> K. D. Rainsford and M. W. Whitehouse, *J. Pharm. Pharmacol.*, **28**, 83 (1976).

## Pharmaceutical Company Data on Drugs in Breast Milk

The World Health Organization Regional Office for Europe has recently established a Working Group to produce a monograph describing the present state of information about drug excretion in breast milk and the hazards, if any, to the suckling infant. The Group is currently reviewing published literature but is aware that other data may be maintained by drug companies in internal files. The Group would welcome the opportunity to evaluate such information with a view to including it in the monograph. Drug companies which have in their possession unpublished data on excretion of drugs in breast milk are asked to contact:

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## ERRATA

In the article "Determination of Pantothenic Acid in Multivitamin Pharmaceutical Preparations by Reverse-Phase High-Performance Liquid Chromatography" (1), the following should be noted:

On page 114, Figures 1 and 2 were transposed.

(1) T. J. Hudson and R. J. Allen, *J. Pharm. Sci.*, **73**, 113 (1984).

In the article "Diaspirins of Methylenecitric Acid" (1), the following correction should be made:

On page 419, in the last line in Table I the compound name should read [Bis(3,5-dibromo-2-carboxyphenyl)fumarate].

(1) S. E. Massil, G.-Y. Shi, and I. M. Klotz, *J. Pharm. Sci.*, **73**, 418 (1984).

In the article "Physicochemical Model for Dose-Dependent Drug Absorption" (1), the following correction should be made:

On page 1278, in the *Appendix*, the last line should read  $R_t = k_{af} f_{ui} \times C_i V_i$ .

(1) J. B. Dressman, D. Fleisher, and G. L. Amidon, *J. Pharm. Sci.*, **73**, 1274 (1984).