Gerontology 1995;41(suppl 2):I-X

Contents, Supplement 2, 1995
Proceedings of the 5th International Symposium on Lipofuscin and Ceroid Pigments
State of the Art 1995
Part 2 of the International Gerontology Week, Tokyo, 1995
Editors
Kenichi Kitani, Tokyo and Obu, Japan
Gwen O. Ivy, Toronto, Canada
Hiroyuki Shimasaki, Tokyo, Japan
99 figures, 21 tables, 1995
Karger
Gerontology
Vol. 41, Supplement 2, 1995
S. Karger
Medical and Scientific Publishers Basel · Freiburg · Paris · London New York · New Delhi · Bangkok Singapore · Tokyo · Sydney
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ACKNOWLEDGEMENTS
The Organizing Committee gratefully acknowledges the following organizations and many other companies and individuals for their generous financial support for this meeting.

Osaka Pharmaceutical Manufacturers Association
The Pharmaceutical Manufacturers’ Association of Tokyo

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PREFACE
The International Symposium on Lipofuscin and Ceroid Pigments originated with the meeting held in Vico Equense near Naples, Italy, organized by E. Aloj-Totaro, F. Pisanti and P. Glees in 1985. Since then, a series of meetings with the same title have been held in Debrecen (Hungary), Maui (U.S.A.) and Tampere (Finland) and now this year in Tokyo (Japan).

As the title of the meeting indicates, this meeting focuses on a specific area of aging research. Although a number of attempts have been made to identify the biological mechanisms of aging, none has been widely accepted, no doubt because the mechanisms of aging are so complex. Nonetheless, lipofuscin, or age pigment, continues to be the most realistic biomarker of cellular aging.

Considering the long history since the discovery of lipofusin, however, it is surprising that we know so little about this tiny material in terms of its pathogenesis, biochemistry and biological roles in the aging process. What is sure is that it accumulates in so many cell types of so many different species of different evolutionary stages from worms and insects to humans. By studying the mechanism of lipofuscin accumulation, we might be able to have further insight into the mechanisms of aging itself.

Although there is a difference in definition between lipofuscin and ceroid, the morphological appearances are quite similar to each other. In the previous meeting in Tampere, we discussed whether or not we should include ceroid in future meetings, since there are other international activities concerning neuronal ceroid lipofuscinosis (NCL). Although it is likely that at least some types of ceroid are totally different substances from lipofuscin, we decided to discuss both ceroid and lipofuscin at the present meeting, since we know so little about either of these complex substances and because an understanding of the mechanisms of ceroid formation can help us to understand the nature and formation of lipofuscin.

We view the discussions following each paper presented at the meeting to be invaluable in so far as they allow the reader to understand the real “State of the Art” regarding current opinions -both agreements and disagreements- on the complexities of lipofuscin and ceroid pigments. The discussions debate the mechanisms of formation and dissolution of the pigments, their complex physical and chemical properties, their varying morphological properties, their relationships to aging and disease processes and much more. These valuable discussions would, of course, not have been possible without the active participation of all of the attendees at the meeting. The organization, clarity and realization of these discussions was a truly formidable task and would not have been possible without the diligent efforts of Mrs. T. Ohara, Mrs. T. Tagami and Mrs. S. Kanai.
We are deeply indebted to the other members of the organizing committee for their valuable support and contributions to the organization and participation in this meeting. On behalf of the organizing committee, we would like to express our sincere gratitude to all participants who helped our organization by participating so actively in this Symposium.

Finally, we are very grateful for the generous sponsorship and financial support from numerous individuals and organizations, since without their help, our international meeting would never have been possible.

Kenichi Kitani, M.D. Gwen O. Ivy, Ph.D. Hiroyuki Shimasaki, Ph.D.
October, 1995

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