Reproductive Toxicology, Vol. 2, pp. 153–154, 1988
Printed in the U.S.A.

0890-6238/88 $3.00 + .00

OPENING REMARKS: SYMPOSIUM ON THE ASSESSMENT OF REPRODUCTIVE HAZARDS IN THE WORKPLACE

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Good morning. I would like to welcome all of you on behalf of the National Institute for Occupational Safety and Health (NIOSH) and the cosponsor of this symposium, the National Institute of Environmental Health Sciences (NIEHS). We would like to extend our appreciation to all of you who have joined us to participate in this important meeting, and especially to those of you who have supported this effort by preparing and presenting papers for the program.

I would like, also, to thank those who have worked long hours to develop such an excellent program: Dr. Steven Schrader of NIOSH, the Chairman of this symposium; and the organizing committee, which included Dr. Bernard Schwetz, Dr. Robert Chapin, and Dr. Jerrold Heindel of the NIEHS; Dr. Earl Gray, Dr. John Laskey, and Dr. Sally Perreault of the Environmental Protection Agency; and Dr. Donald Mattison of the National Center for Toxicological Research.

I am pleased to be here today to be part of these discussions of a problem — reproductive hazards in the workplace — that continues to be a matter of concern for both men and women. Ten years ago, in April 1978, NIOSH cosponsored, with the Society for Occupational and Environmental Health, a workshop with a goal similar to that for this symposium (1). The title was "Workshop on Methodology for Assessing Reproductive Hazards in the Workplace." The presentations at that time covered:

1. case studies of agents associated with adverse effects on reproduction (carcinogenesis/teratogenesis),
2. standard in vitro and in vivo tests for the identification of mutagens and teratogens,
3. short-term methods for human surveillance of mutagens (cytogenetics and sperm assays), and
4. epidemiologic methods for detecting teratogens.

The focus of those presentations was directed at the identification of chemical compounds causing, or suspected of causing, teratogenesis or mutagenesis. Almost totally missing were reports of methodologies for identifying and evaluating other adverse reproductive effects. That was, however, a reflection not of a lack of appreciation for the need for these methods but rather a lack of information or data related to these needs.

Many questions were posed, significant gaps in knowledge were delineated, and recommendations for future research were developed at that workshop. Allow me to reiterate five of the questions posed at that symposium by Dr. Eula Bingham, then Assistant Secretary of Labor and head of the Occupational Safety and Health Administration (2):

1. When are epidemiologic studies useful in evaluating reproductive effects? And when are they not?
2. What other information do we need about the effects of toxic substances on male and female physiology?
3. Should teratogenic tests consider toxic exposures prior to conception?
4. What do we need to know about the synergistic and additive effects of toxic exposures?
5. Given the number of chemicals that still need to be evaluated for reproductive toxicity, what should be the method for assessing priorities?

Dr. Bingham also emphasized that, historically, reproductive hazards have been seen as a "woman's problem." The symposium papers, with their emphasis on teratogenic effects, supported that concept. She cautioned the workshop participants that more awareness of the importance of

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male vulnerability was also needed. We need to assure, to the greatest extent possible, a safe and healthful workplace for *all* workers — men and women. And that includes protection of all functional capacities, including the reproductive capacity, as well as prevention of spontaneous abortions or the procreation of children with birth defects.

The purpose of this symposium is to reflect on and report on what we have accomplished over the last ten years — our successes and our failures. Clearly, we have made progress in addressing the voids identified at that earlier meeting, and we will be sharing our reports of that progress over the next two days.

We have identified numerous reproductive hazards through both epidemiologic and animal toxicity studies. Presentations today and tomorrow will address these matters.

We will learn in the sessions later today of the significant advances made in the study of male reproductive toxicology and the methodology for assessing adverse effects. We have much to learn in the area of female reproductive toxicity. Methodology for assessing adverse effects on female fertility has shown less progress; yet there are some developments in this area as we will learn tomorrow. Finally, we look forward to hearing the reports tomorrow from representatives of Federal regulatory agencies on their needs for data essential to the regulation of reproductive toxicants. I look forward to hearing these presentations and I am sure you do also.

Thank you for joining us in this important symposium.

REFERENCES

1. Proceedings of a workshop on methodology for assessing reproductive hazards in the workplace. Cincinnati, OH: U.S. Department of Health and Human Services Publication (NIOSH), Publication No. 81-100, October 1980.
2. Bingham E. Some scientific and social issues of identifying reproductive hazards in the workplace. In: Proceedings of a workshop on methodology for assessing reproductive hazards in the workplace. Cincinnati, OH: U.S. Department of Health and Human Services Publication (NIOSH), Publication No. 81-100, October 1980, pp. 3–6.