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Alcohol, Pregnancy and the Developing Child

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findings in the neurotransmitter systems, but neither chapter discusses this issue. The final chapter in this grouping is a review on the neuroendocrine response to stress in the fetal-alcohol-exposed offspring.

A lone chapter reviews the effects of ethanol consumption on maternal breast-feeding, including milk production and the infant's suckling response.

Next, two chapters review the effects of maternal ethanol use on prostaglandin metabolism in the newborn and on the nutritional status of the fetus. Literature is reviewed that implies that ethanol teratogenesis is mediated, in part, by prostaglandins either directly on the fetus or in altering blood flow through the maternal-fetal utero-placental unit. Also described is how ethanol may affect maternal nutrient intake and metabolism, placental transport and metabolism and fetal metabolism, resulting in growth retardation.

The next to last chapter, which seems somewhat out of place, is a discussion of the effects of ethanol on thermoregulation. The review is extensive and includes a good many graphs and photomicrographs that add clarity to the presentation.

The final chapter is the only chapter in the book to address prevention. It describes a study to assess the efficacy of the warning label on bottles that found that such labels were related to a modest reduction of drinking only for women under 20.

Each individual chapter in this book is well written. Too little effort is made, however, to coordinate the chapters both within and between the subject areas; it is not clear how the book flows from one chapter to the next. It would have been very interesting to have a discussion on how the findings described in one chapter fit into those described in another. For example, what are the implications of the neuroanatomy findings described by Martier et al. for neurophysiology, neurobehavioral pharmacology or stress response? What are the implications of these findings to primary or secondary prevention?

There are several areas of FAS research that are not represented in this book. The effect of ethanol on neural cell adhesion molecules is not addressed, nor are findings of increased apoptosis in the brains of ethanol-exposed fetuses. The entire area of prevention is given only one chapter. Primary prevention is to keep pregnant women from drinking. Secondary prevention is to prevent the secondary disabilities that come from having FAS. The area of biomarkers as a way of identifying exposed infants is not discussed. Recent work has examined the possibility of genetic susceptibility to the teratogenic effects of ethanol. And, finally, the Institute of Medicine in 1996 convened a working group to examine the field of FAS research. That working group made a series of recommendations for the future of the field that is not mentioned in this book. It is still, however, one of the most comprehensive reviews currently available.

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Alcohol, Pregnancy and the Developing Child, by H.-L. Spohr and H.-C. Steinhausen (Eds.). Cambridge, England: Cambridge University Press, 1996, 307 + xviii pages, $74.95 (cloth).

This book comprises 15 chapters on issues pertaining to Fetal Alcohol Syndrome (FAS) and the effects of prenatal alcohol exposure on fetal development. The material in the book ranges from molecular to public health levels of analyses. The first three chapters (under the heading of "clinical issues") discuss matters and research relating to the relationship between prenatal exposure to alcohol and developmental outcomes in humans. In particular, the chapters focus on the variability in such outcomes. The authors of these chapters emphasize that full FAS does not necessarily occur even after heavy alcohol exposure and that children exposed to alcohol during fetal development often exhibit a variety of symptoms that do not necessarily fit a rigid definition of FAS.

The next four chapters focus on the pathogenesis and neuropathology associated with prenatal alcohol exposure. The chapters contain a full description of the brain changes observed and the risk and provocative factors involved in human FAS and as seen in animal models of FAS. All of the chapters include a discussion of the current research as well as much speculation on the possible mechanisms involved in the neuropathology induced by alcohol exposure.

The following five chapters examine the developmental progression of children who have been exposed to alcohol during fetal development. Three of these chapters examine the development in children who do not have full FAS, and the remaining two chapters focus on those children at the severe end of the spectrum, including those with full FAS.

The final three chapters focus on intervention and rehabilitation both for the person with FAS and for the mother at risk for giving birth to a child with FAS. These chapters include a discussion regarding the scant amount of research on rehabilitation and intervention strategies and provide a number of suggestions for clinicians and individuals involved in making social policy.

The breadth of this book is clearly a strength. The reader is exposed to a variety of approaches used to examine the effects of prenatal alcohol exposure as well as to the many issues that one must consider in this field. A particular strength of this book is the inclusion of authors from both Europe and North America. While there have been a number of volumes on FAS in the past year, these books are written by researchers exclusively from North America. The value of including chapters from abroad is that differences in approach and definition become apparent and there is greater sensitivity to the cultural issues involved in this field. Books that span research from many cultures can only enhance understanding in the field. Most of the book is well written and clear although the foreword is rambling and of limited relevance.

While there are chapters with very different views of FAS, there is little integration of these chapters. Indeed, the naive reader would be confused by the contradictions found across chapters. For example, when discussing the possibility of a

threshold for alcohol-induced effects, some authors indicate that, since it is impossible to demonstrate a threshold, the physician should use his/her own judgment about how much is safe for a woman to drink, while others state that the threshold for alcohol-induced effects is 1 to 2 drinks per day or that there are no safe levels. Similarly, one chapter contends that there are no animal models except primate models of FAS and the next chapter discusses rodent models of FAS. A chapter by the editors that summarizes the controversies or a debate among the various authors on controversial areas would have greatly enhanced the book. As it is, the integration across chapters is left up to the reader.

Many of the chapters are reviews of previously published journal articles or are updated revisions of previously published reviews and, as such, the book is of limited utility to someone currently conducting research in the field. However, those actively involved in the field might find this book useful in acquiring knowledge outside their area of specialization. The preface indicates that the book is aimed at gynecologists, obstetricians, midwives, neonatologists and pediatricians and is also for child and adolescent psychiatrists and psychologists. The book is quite appropriate for this audience and is also appropriate for those involved in social policy and law. The book does an excellent job of conveying the complexity of the effects of prenatal alcohol exposure without becoming too esoteric. A person wishing to become well informed about such effects would benefit greatly from reading this book.

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