Book Reviews

Gerhard Martius
Operative Obstetrics
It is good to see that the wisdom of Heinrich Martius is still preserved and that an English edition superbly translated by E. Judith Friedman and Emanuel A. Friedman is now available for students and residents in the English-speaking world.
In such a short compass there is a wealth of detail and thanks to the editor and his wife the volume has both clinical value and pleasantness of style.
The illustrations are well chosen and support the contention that one picture is worth a thousand words. The latter particularly applies to the figures dealing with fetal heart rate patterns.
In any textbook it is always easy to criticize and especially the volume that condenses a wealth of clinical information into so few pages. In this case the reviewer has only minor criticisms such as on page 11 under procedures for vaginal delivery one would like to know what the authors intended by the statement ‘examining the vaginal area’, but this is readily corrected when one finds on page 12 ‘vaginal examination’. There are other minor criticisms, but thanks to the editor and this English translation this edition of this work is probably the best practical textbook on operative obstetrics of its size in the English language. It is a must for the student or the junior obstetrician, and the teacher will find it stimulating and provocative but never dull.
David Charles, MD, Huntington, W. Va.

FA. Kimball
The Endometrium
This book is the report of the proceedings of the Eighth Brook Lodge Workshop in Reproductive Physiology. It is an excellent review of endometrial morphology, steroid hormone action at the target cell level, uterine enzyme regulation and current knowledge of the role of prostaglandins in nidation.
Despite the international stature of many of the contributors, the chapters vary widely in scientific content, clinical value and pleasantness of style. Particularly comprehensive and clearly written presentations are those entitled: ‘The Endometrium during Implantation’, by Finn; ‘Estrogen and Progesterone Receptors in Normal and Pathological Human Endometrium’, by Baulieu et al.; ‘Endometrial Secretion of Prostaglandins during the Ovarian Cycle and Early Pregnancy’, by Knobil et al.; and the essay by Margaret Abel entitled, ‘The Influence of the Embryo on Uterine Prostaglandin Production in the human’. These essayists have provided concepts which will continue to aid research activities in this field for many years.
The fascination of endometrial studies emanates from the fact that no other tissue is subject to cyclic degradation and regeneration in response to ovarian steroids. Reproductive physiologists
and biochemists have considered this tissue as a model of a hormonal regulation mechanism specifically directed at one organ. From their studies there is every indication that a cyclicity of estradiol and progesterone receptors occurs in the normal menstrual cycle as well as, in all probability, in the determination of the time at which nidation of the blastocyst occurs. Despite an ever burgeoning literature pertaining to steroid receptors the precise molecular mechanism by which the hormones intervene with gene expression in target cells has not been demonstrated to date. When steroids enter the cellular components of the endometrium they bind with specific cytoplasmic protein macromolecules. The binding of a steroid to its specific receptor with high affinity is followed by transference of this hormone receptor complex to the nucleus, whereby interference with gene expression results in the cellular response. The many ramifications of the endometrial steroid receptors in reproductive biology are well covered in this volume.

Each presentation is followed by a discussion between the essayist and other participants in the workshop as well as a comprehensive bibliography. It is the latter facets of this publication that add to the attractiveness of this volume. I find myself in unreserved admiration for this book and it deserves to be read widely by clinical and research scientists with an interest in reproductive medicine.

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F. Leroy
Blastocyst-Endometrium Relationships
Progress in Reproductive Biology, vol. 7 Karger, Basel 1980
X + 338 pp.; SFr. 198.-/ US $ 118.75 ISBN 3-8055-0988-X

Every now and then a specific area in reproductive medicine seems to have gained a sense of vibrance and optimism, and this applies at the present time to human embryo culture and the relationship between the blastocyst and the endometrium.

This volume presents the proceedings of the Seventh Seminar in Reproductive Physiology and Sexual Endocrinology, which was held in Brussels in May of 1980. The editors are therefore to be congratulated in having the proceedings of this meeting published in such a short space of time.

The papers presented are organized under the following headings: Triggering Stimuli, Endometrial Epithelial Cells, Stroma and the Decidual Cell Reaction, Uterine Sensitization and the Refractory State, Subcellular Regulation, Species Diversity and Implantation in Primates and Control Over Human Implantation. Many of the contributors have made distinguished experimental and conceptual contributions to implantation of the blastocyst

Book Reviews

and, consequently, the biochemical and physiologic events that precede nidation are presented in a comprehensive well-written series of essays. Although most of the data presented is derived from animal experiments, it furnishes future avenues of research in conception control as well as a better understanding of the endometrial changes that must accrue before the in vitro fertilization of ova can be more widely used in some forms of infertility. The uterine environment can exert a considerable influence on nidation and the activity of the embryo. Progesterone is required for the maintenance of pregnancy in all mammalian species although nidation of the blastocyst depends on a precise hormonal balance of ovarian estrogen and progesterone. Despite extensive research during the past decade the role of estrogen in the implantation of the blastocyst has not been delineated.
During the past 20 years a large body of information has been accumulated concerning steroid receptors which has resulted in the concept that hormones interact with receptor systems in order to initiate the responses of the target cells. Studies indicate that a cycle of estradiol and progesterone receptors are involved in normal menstrual cycles and in the implantation of the blastocyst. Progesterone is generally considered to antagonize the action of estrogens. In rodents, the species most commonly studied for receptor regulation, progesterone has either a stimulatory or inhibitory effect on the estrogen receptor concentration depending on the uterine tissue component evaluated. In the endometrium of castrated rats, progesterone induces and increases the estrogen receptor content within 48 h. In the myometrium progesterone does not augment the receptor content but when administered with estradiol it inhibits the receptor increase induced by estradiol. However, despite the current interest in the process of implantation of the blastocyst, very little is known in particular about receptor concentrations during nidation. The blastocyst, however, does appear to exert a local effect on the subcellular distribution of estradiol and progesterone receptors in the adjacent endometrium. It has also been postulated that the blastocyst can secrete estrogens to induce its own implantation and modulate receptors in the nidatory endometrium.

Throughout this volume it is emphasized that the control of early pregnancy is a complex process which demands extensive research in the years ahead. An excellent account of the current knowledge of the role prostaglandins in mediating the permeability of the endometrial vasculature and the propensity of the blastocyst to stimulate prostaglandin biosynthesis as well as the role of histamine in implantation is included in this volume.

In discussions pertaining to the mechanisms of action of medicated intrauterine devices it is emphasized that any drug which has an infertility effect that can be released into the uterine secretions can be used in an intrauterine contraceptive device. During the past decade several different drugs have been tested but only a few have been more extensively used. Those releasing copper into the uterine cavity most probably exert their contraceptive effect through several mechanisms of which the most important relate to changes in the metabolic processes in the endometrium at the time of implantation and its effect on the uterine secretion which could have secondary effects on the preimplantation blastocyst. The progestagen-releasing devices probably exert their influence by modifying the endometrium so that it is unsuitable for nidation. The effect of postcoital estrogen administration is also discussed and is considered to be effective because it interferes with the synchronization of the blastocyst and the endometrium. Studies would indicate that estrogens administered from day 2 to day 6, inclusive, after ovulation maintain the endometrium in an early secretory phase. Other studies in the human with large doses of estrogens indicate that progesterone secretion by the corpus luteum is diminished, these date back to the early part of the past decade and were primarily involving diethylstilbestrol.

The final chapter of this volume deals with fertilization in vitro and reimplantation of embryos to alleviate human infertility mainly due to tubal factors. Much work in this area remains to be done but successful pregnancies have already been reported. The implantation of a normal embryo is, however, essential and attempts to type embryos during their early stages of growth should be encouraged.
In conclusion, this volume will make a valuable addition to the libraries of all departments of reproductive medicine, especially as each chapter carries an exhaustive set of references. The editors are to be congratulated for the quality of the book and for making it available to those who did not attend the conference.

D. Charles, MD, Huntington, W. Va.

Announcement

Clinical Cytopathology for Pathologists – Postgraduate Course

The 23rd Postgraduate Institute for Pathologists in Clinical Cytopathology is to be given at The Johns Hopkins University School of Medicine and The Johns Hopkins Hospital, Baltimore, Md., March 22 to April 2, 1982. The full 2-week program is designed for pathologists who are certified (or qualified) by the American Board of Pathology (PA), or its international equivalent. Application is to be made before January 27, 1982. For details, write: John K. Frost, MD, 610 Pathology Building, The Johns Hopkins Hospital, Baltimore, MD 21205, USA.

The entire course is given in English.