

Book Review

Fibroids, Menstruation, Childbirth, and Evolution: The Fascinating Story of Uterine Blood Vessels. By Fred Burbank. Wheatmark: Tucson, AZ. 295 pp. 2009. \$117.95 (ISBN: 978-1604941708). A free download for personal use is available from www.saltcreekfoundation.org/education.php

This book is a labor of love, stimulated by the author's amazement that complete occlusion of both uterine arteries diminished symptoms of uterine fibroids without catastrophic insult to the uterus. All proceeds from the sale of the book will be donated to the nonprofit Salt Creek International Women's Health Foundation.

An entrepreneurial psychiatrist turned interventional radiologist, Fred Burbank set out to determine how the evolution of the human uterus allowed it to endure hours of ischemia without significant permanent damage. His quest included extensive literature review, from which 1,755 references are included in the book, as well as interviews with physicians instrumental in developing uterine vascular techniques. The quest also stimulated him to form yet another start-up company and develop a Doppler-directed temporary uterine artery clamp readily usable by gynecologists. An engaging writer with self-deprecating humor, he has synthesized these data and his thoughts into three sections: Evolutionary Medicine, Basic Sciences, and Clinical Applications, with four brief appendices on the basics of MRI, hemodynamics, uterine artery embolization procedures, and hemostasis and fibrinolysis.

In Evolutionary Medicine, a short but most interesting section, Dr. Burbank posits that over time women have evolved from having many pregnancies (and breast feeding) with consequent relatively few menstrual periods, to few pregnancies, less breast feeding, and more menstrual periods, with an associated increase in the incidence of fibroids. He hypothesizes that uterine artery occlusion, by causing transient ischemia, may mimic the biology of childbirth. The Basic Sciences section provides detailed anatomy and physiology of the uterus and its blood supply (with excellent illustrations by the author's son) and the changes therein that occur with age, and during menses, pregnancy, and puerperium. It provides the foundation on which rational clinical applications can be considered. The Clinical Applications section is both the longest and the weakest. Divided into subsections on control of acute blood loss (6 pages), treatment of chronic disease (71 pages with 65/71 on fibroids), and pregnancy after vascular occlusion therapies (4 pages), it suffers from inclusion of excessive references. Though the author points out the design weaknesses of some of the papers he quotes, and quotes some early work only to show the conclusions proven wrong by later work, this leads to repetition and makes it difficult to keep good and not-so-good work sorted

out. Compelling is his argument that "Fibroids die because they are ineffective at lysing clot. Myometrium lives because it has evolved to lyse the clot that forms following each childbirth." Perhaps in the next edition he could weed this section, highlighting the best work along with some guidance about critical reading of clinical articles. Similarly, references giving credit to some early pioneers but otherwise limited to the best and most current would be more helpful to the reader. The information in the appendices is insufficient for those unfamiliar with the topics and superfluous for those most likely to find the book of interest. Surprising for an interventional radiologist who has surely seen elongated tortuous aortas, the author states, "...arterial lengthening does not occur."

So who should read this unusual book? Gynecologists and interventional radiologists with an interest in women's diseases will find both science and food for thought. Well-educated women contemplating fibroid therapy and seeking to make an informed decision may also find portions of this book of interest.

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