
BOOK REVIEW

The Kidney: From Normal Development to Congenital Disease

Editors: Peter D. Vize, Adrian S. Woolf, and Johnathan B.L. Bard

Publisher: Academic Press

I HAVE BEEN dabbling in evolutionary biology for several years, and finding this book was like driving to the top of a small hill only to find a magnificent, snow-capped mountain range rising a dozen or so miles ahead, begging to be explored. I had avidly read Homer Smith's book *From Fish to Philosopher* several times. It is a masterpiece that deifies the kidney as the master organ of evolution that has made terrestrial life possible for us wandering mammals. Surely, I thought, there was more to this than Smith had imagined. And indeed there is.

The Kidney: From Normal Development to Congenital Disease, edited by Peter Vize, Adrian Woolf, and Johnathan Bard, arrived one day for me to review, and I have had a hard time putting it down. The editors have persuaded an all-star cast of active investigators to contribute 28 chapters covering the full spectrum of renal development, beginning with Malpighian tubules of *Drosophila melanogaster*; followed by detailed presentations of the pronephric, mesonephric, and metanephric stages of mammalian renal maturation; and ending with congenital diseases arising from maladaptations of all sorts.

For the most part the individual chapters are economically constructed, beautifully illustrated, and appropriately referenced. This reader appreciates the imaginative handling of the illustrations that deal with pronephric, mesonephric, and metanephric development in a way that complements the excellent text descriptions. After several decades of trying to interpret the typically awful illustrations found in most textbooks of embryology, I think I finally get it. I would also lift up for extra high commendation the chapters on nephron formation and development, glomerular capillary development, func-

tion of the metanephric kidney, and the molecular basis of kidney development (an overview).

But there is some room for improvement down the road. The chapters dealing with congenital disorders are sparse to a fault. Is this because there is so little to write about, or were page limitations a factor for these clinical topics, which typically are relegated to the last chapters in a book of science? What is presented in this section is pretty good, but more is needed. The chapter about cystic disease appears to be written from a genetics perspective and leaves out large chunks of knowledge about the malfunctions that characterize this disorder, namely the secretion of solutes and fluid into the cyst cavity and the striking proliferative disorder affecting the mural cells lining cysts. Credit for the unusual secretory function is given to a "mislocated Na pump," without consideration of a large body of evidence to the contrary. Also missing from the book is any tribute to that long-forgotten anion, chloride. Chloride could not even gain a spot in the index! Is this the work of the sodium transport mafia or a simple oversight?

On balance, this book is an excellent point of departure for laboratory trainees, as well as more senior scientists, like me, who may want to catch up on the fundamentals of renal development in the modern era without much of a struggle.

Jared J. Grantham, MD

University Distinguished Professor
Director, Kidney Institute
University of Kansas Medical Center
Kansas City, Kansas

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0272-6386/03/4202-0037\$30.00/0
doi:10.1016/S0272-6386(03)00685-1