Book Review

A Drug’s Journey: From Theory to Delivery

I recently had the pleasure of reviewing a fascinating book, Miracle Medicines, written by Robert Shook. Coming from my managed care background, I expected another biased and colorful account of the history of the seven pharmaceutical companies and their respective drugs that they developed and released. These companies and the drugs have truly changed the face of health care for both physicians and patients who use these drugs.

Each chapter traces a drug’s journey from theory to delivery on the market. The seven products and their manufacturers are:

- *atorvastatin* (Lipitor, Pfizer) for cholesterol
- *imatinib* (Gleevec, Novartis) for leukemia
- *infliximab* (Remicade, Centocor/Johnson & Johnson) for immune diseases (e.g., rheumatoid arthritis, Crohn’s disease, ankylosing spondylitis, psoriatic arthritis, ulcerative colitis, plaque psoriasis)
- *quetiapine fumarate* (Seroquel, AstraZeneca) for depressive illness
- *ritonavir* (Norvir, Abbott), a protease inhibitor for AIDS
- *insulin lispro injection* (Humalog) for diabetes (Eli Lilly)
- *fluticasone propionate/salmeterol* (Advair, GlaxoSmithKline) for asthma

Once I started to read each chapter, I found it difficult to put the book down until I finished that chapter. I was surprised and impressed by the depth of the author’s research about each company and the drugs that he presented.

The author discusses at length the attributes of the drugs, based on conversations held with physicians, research staff, pharmacists, and marketing personnel from the various companies. The detailed accounts of the history of the drugs, the trials and errors, the expenses involved, and the various clinical study phases, gave me a better understanding of what goes on in today’s market and the many challenges involved in research and discovery periods.

The book devotes an equal amount of time to delving into the background of the individual companies.

I can understand, when a unique, one-of-a-kind drug is developed, why drug companies go to such lengths to bring the product to market in an expeditious manner. Each company spends hundreds of millions of dollars to bring its drug through all of the trials and then through the marketing and detailing process with its sales force.

Although it wasn’t stated in the book, I realize that pharma works on a 60% to 80% gross markup with newly released drugs. Obviously, I don’t feel bad about the amount of money they have to spend, when compared with the amount the companies anticipate they will eventually take home.

I have often said that the Food and Drug Administration (FDA) should grant the drug companies a patent life longer than 20 years, so that the agency could sell the drugs for lower prices and make up the overhead and research costs by the extended patent life. Only time will tell on that one.

Mr. Shook has shed much light on the dedicated staff members who work on these products; the book is not about employees at the management level. The people interviewed in the book are among those who make a real difference in the success of their products.

In the pre-print edition that I reviewed, the index had not been completed, but there were 15 pages of extensive notes documenting the statements in the text. Included were an acknowledgment, a sizable introduction, and an afterword.

Reading the chapter on atorvastatin, I learned that only 15% of patients comply with the proper instructions for taking their prescribed cholesterol drugs. The chapter includes a lengthy explanation of HDL and LDL and discusses the hurdles that researchers had to overcome when atorvastatin was launched in 1997.

The book also presents a detailed background on the merger of Astra and Zeneca.

Even though companies do look for the “winners” instead of the “me-too” products, this book brings out the finest in an industry that doesn’t do much to enhance its image in the eyes of the public and in the area of managed care, no matter what the pharmaceutical industry might tell us.

I heartily recommend this book not only to physicians, pharmacists, nurses, and students but also to the lay public. Most consumers, in particular, would probably want to learn more about the pharmaceutical industry, especially its good side and its business tactics, rather than depend solely on the few facts we usually read about in the media or hear about from Congress. For anyone interested in how a drug is created and the course it must travel, Medical Miracles provides valuable information.

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