BOOK REVIEW

Title: BIOCHEMISTRY OF EXERCISE IV-A AND IV-B
Editors: Jacques Poortmans and Georges Niset
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This well-produced and scholarly two-volume work is the eleventh in the International Series on Sport Sciences. As it is written by authors of several countries who often publish in other languages, it contains information it is often difficult, if not impossible, to obtain elsewhere. This particular volume is the proceedings of the Fourth Symposium on Biochemistry of Exercise held at the University of Brussels in June 1979, and presents the latest information on exercise and hormone regulation.

Volume IV-A starts with an introductory paper on “Non-equilibrium Self-organisation in Biochemical Systems” by the Nobel prize winner, I. Prigogine, and his associate, A. Goldbeter, which, as far as I can understand it, contains many brilliant biochemical insights on everything from glycolytic oscillations in yeast to the periodic synthesis of cyclic AMP in the slime mould dicytostelium discoideum, via the sensuous oscillatory phosphofructokinase reaction and the tortuous curves of the sigmoid nullcline. This leads us to the inevitable conclusion that “spatial dissipative structures could play a crucial role in morphogenesis”.

The following paper by Professor Philip Randle on “Molecular Mechanisms Regulating Fuel Selection in Muscle” is relatively easy going and gives an excellent overview of “the glucose fatty acid cycle after 15 years” though with occasional sticky patches, for example, “component enzymes and their stoichiometry in the regulation of pyruvate dehydrogenase complex by phosphorylations and dephosphorylation”. Following these two high powered introductory papers, there are a series of main papers, free communications, and poster abstracts of variable quality, accuracy and apparent applicability to Sports Medicine.

For example, though relevant, is Dr. Vernon Young’s chapter on “Skeletal Muscle and Whole-Body Protein Metabolism in Relation to Exercise” accurate when it states that “the mechanisms whereby testosterone stimulate muscle protein synthesis are not yet known”, in view of the well-documented work of Professor Radhaey Singhal in Ottawa and Professor Mainwaring in Leeds. Conversely, the article on “125i-Insulin Metabolism in Exercise-trained Rats” in the next section on “Insulin, Glucagon, and Exercise” is probably accurate, but is it relevant?

The final section in this volume on “Diabetes, Obesity, and Exercise” is regrettably brief for such a clinically important area.

Volume IV-B is in the same format and starts with an excellent section on “Catecholamines and Exercise” which contains a great deal of new information of interest to the researcher. The next section on “Thyroid Hormones and Exercise” only contains one main paper and one poster abstract, while the following one on “Steroids Hormones and Exercise” is also surprisingly brief considering the importance of this topic to all those interested in sports medicine.

These two volumes highlight a problem of communication in the field of medicine in relation to conference proceedings. Having encouraged hundreds of people to fly thousands of miles and spend hundreds or thousands of pounds to present or listen to papers which may only last 10-15 minutes, is it then right to compound the felony by producing the resulting variegated contributions in the proceedings of the conference two years later. By that time the important work will have been published in many other journals and become common knowledge, while the less important will have suffered the effects of the rapid exponential decay of research information in the biological sciences.

Finally, as I have tried to illustrate, can such symposium proceedings really claim, as here that “these should be of particular interest to researchers, clinicians, students, physical educators, and coaches involved in the growing field of sports science?” Though a useful reference source for the researcher, they are likely to be too dated, and for the rest they are likely to be too detailed and too theoretical in their approach.

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