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Editorial

Special issue: cardiac pacing



This special issue was developed around the theme of cardiac pacing and highlights the critical importance of the electrical system of the heart for normal cardiac function. There is something fascinating in the way cardiac contraction is coordinated by an electrical current that is very reliably generated and propagated by a small number of specialized myocytes arranged in a complex network of nodes and bundles. However, whenever the normal function of the conduction system is disrupted, we then rely on electronic devices designed by creative engineers and scientists to replace the pacemaker cells with a battery-powered source of electricity. The continuous flow of technological advances has been producing artificial pacemakers of smaller size, more programmable, and associated with fewer complications. As veterinary cardiologists, we find ways to apply these complex devices initially tailored for human use to our animal patients.

This issue is not an exhaustive review on cardiac pacing. Nonetheless, many subjects are incorporated in a blend of review articles, original studies, and case reports. Dr. Fedorov summarizes his most recent and fascinating findings on the cellular mechanisms of the intrinsic pacemaker of the heart, the sinus node; a detailed review of the

rhythm disorders that can be managed by pacemaker therapy is provided by Dr. Santilli; Dr. Deforge offers a description of the components of artificial pacemakers, their evolution, and the future directions of development; Dr. Estrada summarizes the experience of her group with various techniques of transvenous lead implantation; and Dr. Orton shares his minimally invasive approach to epicardial pacing lead placement. Complications associated with pacemakers and approaches to correct or prevent them are described in case reports and tested in original studies. Finally, the contribution of myocarditis to rhythm disorders requiring permanent pacemaker therapy is highlighted in this issue.

I want to thank the editors of the journal for the opportunity to serve as a guest editor of this special issue, and I wish to express my gratitude to the authors and reviewers who contributed their time to produce high quality and richly illustrated manuscripts.

I hope you will find this special issue illuminating.

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