Cardiac Electrophysiology in Lebanon—Part II

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Abstract: Systematic national effort to improve cardiac electrophysiology practice in Lebanon is lacking, and the quality improvement program mainly relates to individual efforts along with regulations, which are set as a “Road Map” by the Lebanese Arrhythmia Working Group. Lebanon currently has five electrophysiology laboratories. The “Road Map” mainly consists of creating a registry and a National Card for Electronic Device Holder, centralization of complex electrophysiology procedures in institutions where electrophysiologists are available, setting regulations to conform to international guidelines, and creating a National Arrhythmia Website and E-Journal. Most importantly, we emphasize that the practice of device checking must be performed by physicians with expertise and not by industry technicians.

Keywords: electrophysiology, lebanon, road map, working group, arrhythmia

Clinical Medicine Insights: Cardiology 2013:7 141–143

doi: 10.4137/CMC.S12778

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Lebanon is a small country (area of 10,452 km²) on the eastern shore of the Mediterranean Sea, and is well known by its historical cities like Byblos, where the “first” alphabet was issued by Phoenicians; its population of approximately 4.2 million is multietnic (Phoenician, Arab, Greek, Persian, and so on) and multilingual (Arabic, English, French, Italian, and so on). Lebanon counts nearly 150 hospitals, with almost 90% private and 10% public institutions. Since our first report regarding “Cardiac Electrophysiology in Lebanon,” we have some new issues to comment on, and have developed a “Road Map” set up primarily by the Arrhythmia Working Group (AWG) of the Lebanese Society of Cardiology in order to improve electrophysiology (EP) practice in Lebanon.

First, we recall the main documentary data described in our previous report written in 2010, along with a comparison and analysis of the current data regarding EP in Lebanon in 2013. The general situation in the country is still unstable, with persistent political and economic upheaval since 2011 as a consequence of the adjacent Arab Spring. The first electrophysiological study and the first implantable cardioverter-defibrillator procedures (ICD) were performed in Lebanon in 1995; cardiac resynchronization therapy (CRT) was introduced in 1999. The country still has—as stated before—only five EP laboratories, with only one laboratory located outside of Beirut (in Byblos). Regional and international arrhythmia congresses (Ph-HeartRhythm, Cardiopace) are organized in Lebanon every two years under the auspices of the Lebanese Society of Cardiology and the AWG.

Currently, there is no official registry regarding pacing and EP in Lebanon; however, we estimate that nearly 100 EP procedures and 900 device implantations are performed yearly in Lebanon. Among the approximate 900 implanted devices, nearly 600 are antibradycardia devices (~40% single chamber pacers; 60% dual chamber pacers), and nearly 300 devices are ICD and/or CRT-defibrillators (CRT-D); of note, CRT-Paces implantations are almost nil. The vast majority of ablation cases are supraventricular tachycardias. Three-dimensional and electroanatomic mapping systems were introduced in 2010, and ablation of atrial fibrillation and complex ventricular arrhythmias is now feasible in Lebanon; however, the workload regarding these complex procedures is still poor. EP procedures are exclusively performed by electrophysiologists, whereas device implantations are performed in nearly one-third of cases by general cardiologists or surgeons. Devices follow-up are performed by electrophysiologists in nearly 60% of cases; the rest are performed by industry technicians and/or nonelectrophysiologist—physicians. We mentioned the risks of such private practices in a previous report.

The main limitations to cardiac EP development in Lebanon are: reimbursement, referral, and lack of teamwork. Reimbursement is insured via two broad health insurance systems: a public system (National Social Security, Civil Employee Cooperative, Municipal plan, Internal Security plan, and Armed forces plan) and a private system (private insurances). Nearly 75% of the Lebanese population is covered by public insurance, 10% by private insurance companies, and the remaining 15% are uninsured. Moreover, the insurance system (whether public or private) reimburses nearly 75%–80% of the cost of implantable devices; in addition, EP catheters are not reimbursed at all. Of note, we mention that the minimum wage in Lebanon is only 675 LBP (~450 USD) per month; accordingly, it is often hard to afford the cost of sophisticated and costly procedures like atrial fibrillation ablation, which is still not reimbursed. Referral is another limitation to cardiac EP in Lebanon, and it is related to a lack of awareness and perhaps due to financial reasons in a mostly private health care system where many physicians refrain from referring patients to specialized centers. Finally, the lack of teamwork is serious and it is mainly related to an overwhelming private health care system where many physicians refrain from referring patients to specialized centers. Unfortunately, there are no specific governmental policies to improve EP practice in Lebanon, and all the effort is being made through the AWG along with individual physician motivation and awareness. The new “Road Map” set by the AWG has multiple objectives: create a registry, create a National Card for Electronic Device Holder, centralize complex EP procedures in institutions where electrophysiologists are available, encourage teamwork and
conform to international guidelines, supervise some television programs regarding arrhythmias and EP, create a National Arrhythmia website and journal, set regulations so that device check is always supervised by physician with expertise, and so on. In a rapidly evolving world where health care service becomes more and more expensive, it is essential to develop and maintain standards regarding EP in order to maintain human values and quality of care for better outcomes.

Author Contributions
Conceived and designed the experiments: AK. Analyzed the data: AK. Wrote the first draft of the manuscript: AK, MR, MK. Contributed to the writing of the manuscript: AK, MR, MK. Agree with manuscript results and conclusions: AK, MR, MK. Jointly developed the structure and arguments for the paper: AK, MR, MK. Made critical revisions and approved final version: AK, MR, MK. All authors reviewed and approved of the final manuscript.

Funding
Author(s) disclose no funding sources.

Competing Interests
Author(s) disclose no potential conflicts of interest.

Acknowledgments
The authors would like to thank Dr Nicolas Moussallem, President of the Lebanese Society of Cardiology, and Dr Sobhi Dada, elected President of the Lebanese Society of Cardiology for their contribution in providing necessary data for this paper.

Disclosures and Ethics
As a requirement of publication the authors have provided signed confirmation of their compliance with ethical and legal obligations including but not limited to compliance with ICMJE authorship and competing interests guidelines, that the article is neither under consideration for publication nor published elsewhere, of their compliance with legal and ethical guidelines concerning human and animal research participants (if applicable), and that permission has been obtained for reproduction of any copyrighted material. This article was subject to blind, independent, expert peer review. The reviewers reported no competing interests.

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