



Contents lists available at ScienceDirect

Indian Pacing and Electrophysiology Journal

journal homepage: www.elsevier.com/locate/IPEJ

Fighting sudden cardiac death in India – Knowing your enemy is half the battle



As India makes rapid strides towards becoming a developing nation, we have not been immune to the burdens accompanying this transition, principally a rise in non-communicable diseases, especially cardiovascular disease, as a leading cause of death. Sudden cardiac death particularly imposes a large toll because it often strikes those in the prime of life cutting short potential years of contribution to their family and the society [1]. The need to focus public health policies to combat this menace is not in doubt. The first step towards this is to identify the magnitude of the problem and its contributors.

Quantifying sudden cardiac death and its causes has always been a sticky problem. Retrospective studies are likely to overestimate the incidence of sudden cardiac death [2], while hospital based studies do not provide an accurate representation of the problem in the community. The most reliable estimates seem to come from prospective studies in the community using multiple sources of information [2,3]. Based on these, incidence of sudden cardiac death in the United States is estimated to be about 60 per 100,000 population. The mean age of those dying is about 70 years and coronary artery disease contributes to about 80% of these deaths.

Compared to this, there is very little reliable data of the situation in India. Known predilection to coronary artery disease, high proportion of ST elevation MI as presentation and younger age of affected patients [4] suggest that sudden cardiac death rates would be as high as, if not higher than, the west and that the impact in terms of potential years of life lost may be higher. The best information to date comes from a questionnaire based study by Rao et al. [5]. In this study, sudden cardiac death was found to constitute 10.3% of all deaths. Mean age of those dying was almost 10 years less than in the West, and high prevalence of coronary artery disease or its risk factors suggested this was a major contributor.

With this background, the report in this issue by Srivatsa et al. [6] on cause of death identified at autopsy in persons dying sudden, non-violent deaths from a region in south India provides vital information. Almost 90% of these patients showed findings consistent with a myocardial infarction, about 2/3 of them an acute MI. This underlines the importance of coronary artery disease as a cause of sudden cardiac death. Efforts directed towards population screening for risk factors, treatment of patients with risk factors and improving early access to care for those with an acute MI could thus be expected to significantly impact sudden cardiac death rate.

But while the study provides valuable information on the cause of sudden cardiac death, it would be too optimistic to assume that the extrapolation to incidence of sudden cardiac death in the community is accurate. Only a small fraction of those dying suddenly would reach a hospital and therefore this incidence is likely to be a significant underestimate. We need community based prospective studies to capture the true incidence and causes of sudden death in India, but meanwhile any data is welcome and the authors are to be commended for providing that.

Disclosures

None.

References

- [1] Stecker EC, Reinier K, Marijon E, Narayanan K, Teodorescu C, Uy-Evanado A, et al. Public health burden of sudden cardiac death in the United States. *Circ Arrhythm Electrophysiol* 2014;7:212–7.
- [2] Chugh SS, Jui J, Gunson K, Stecker EC, John BT, Thompson B, et al. Current burden of sudden cardiac death: multiple source surveillance versus retrospective death certificate-based review in a large U.S. community. *J Am Coll Cardiol* 2004;44:1268–75.
- [3] de Vreede-Swagemakers JJ, Gorgels AP, Dubois-Arbouw WI, van Ree JW, Daemen MJ, Houben LG, et al. Out-of-hospital cardiac arrest in the 1990's: a population-based study in the Maastricht area on incidence, characteristics and survival. *J Am Coll Cardiol* 1997;30:1500–5.
- [4] Xavier D, Pais P, Devereaux PJ, Xie C, Prabhakaran D, Reddy KS, et al. CREATE registry investigators. Treatment and outcomes of acute coronary syndromes in India (CREATE): a prospective analysis of registry data. *Lancet* 2008;371:1435–42.
- [5] Rao BH, Sastry BK, Chugh SS, Kalavakolanu S, Christopher J, Shangula D, et al. Contribution of sudden cardiac death to total mortality in India - a population based study. *Int J Cardiol* 2012;154:163–7.
- [6] Srivatsa Uma N, Swaminathan K, Amsterdam Ezra, Shantaraman K. Sudden cardiac death in South India: incidence, risk factors and pathology. *IPEJ* 2016. <http://dx.doi.org/10.1016/j.ipej.2016.10.004> (in this issue).

Raja Selvaraj

Department of Cardiology, Jawaharlal Institute of Postgraduate Medical Education and Research, Dhanvantri Nagar, Puducherry 605006, India

E-mail address: raja.selvaraj@jipmer.edu.in

Available online 5 November 2016

Peer review under responsibility of Indian Heart Rhythm Society.

<http://dx.doi.org/10.1016/j.ipej.2016.11.001>

0972-6292/Copyright © 2016, Indian Heart Rhythm Society. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).