Schizophrenia: if death occurs without warning, what should we propose for the near future?

Esquizofrenia: se a morte acontece sem aviso prévio, o que devemos propor para o futuro próximo?

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Esquizofrenia is increasingly being viewed as a neurodevelopment disorder likely multi-factorial in origin. In these aspects, schizophrenia is a chronic and devastating brain disease characterized by a collection of signs and symptoms such as psychosis, severe impairments in cognition, behavior and affect, as well as impairments in the ability to work, have a family and socialize.

Whereas pharmacotherapy is still considered an important approach to treating schizophrenia, many patients continue quite symptomatic and remain cognitively and functionally impaired despite optimal treatment. Indeed, approximately 30% of individuals with schizophrenia exhibit little or no improvements with antipsychotic treatment has been linked with alterations in blood pressure and heart rate, among which orthostatic hypotension, with or without syncope, is relatively common. Fourth, smoking is also considered an important risk factor for sudden cardiac death in people with schizophrenia and the effects of smoking on cardiac system may be due to an increase in platelet adhesiveness and release of catecholamines.

Despite scientific advances in recent decades, it has been extremely difficult to prevent the occurrence of sudden cardiac death in individuals with schizophrenia, largely because there have been no concerted or coordinated efforts to address this major public health problem. One possibility would be to emulate successful programs in other areas of medicine towards the area of sudden cardiac death. For example, the sudden unexpected death in epilepsy (SUDEP) research program developed by Devinsky and Friedman in 2011 has been successful program in reducing premature death from epilepsy. Implementing a similar program in patients with schizophrenia would be with the goal of reducing or even preventing sudden cardiac death in schizophrenia. Such efforts would include:

(1) Clinical and research collaborations to incorporate the expertise and knowledge of various medical and research specialties and other health related areas. These collaborations would hopefully culminate into multidisciplinary research which is essential for developing novel therapeutics, unraveling the mechanisms of premature cardiac death, and identifying specific causal factors and preventive measures to minimize the occurrence of sudden cardiac death in schizophrenia.

(2) Create data collection systems to obtain prospective data from treatment centers, clinicians, patients and their families. These data can then be further analyzed to identify risk factors for the occurrence of sudden cardiac death in schizophrenia thus producing a direct measure of risk. Furthermore, it would be appropriate to develop additional prospective studies in reference centers in psychiatry using cardiac physiological parameters to try to assess more precisely our understanding of the cardiovascular alterations that affect individuals with schizophrenia in order to reverse or avoid a fatal cardiac event.

(3) Preclinical studies could be conducted to better understand risk factors, mechanisms, causes and preventive measures. Due to the
difficulty in establishing the precise cause or causes of sudden cardiac death in schizophrenia, animal models may be a suitable model for investigating possible underlying pathophysiological mechanisms. It would be then important to integrate these findings from basic science with clinical studies also known as "bench-to-bedside" research. (4) Implement interventions prospectively which resulted from the above efforts to determine their utility in preventing the occurrence of cardiovascular changes that may culminate in sudden death in individuals with schizophrenia. Clearly, it would be paramount that these procedures be instituted when the initial diagnosis of schizophrenia is made.

Currently, our understanding of the best strategies in preventing sudden cardiac death in schizophrenia is still in its infancy. Initial data suggests that preventative measures other than medical therapies could be useful in reducing the risk of sudden cardiac death in schizophrenia, although strict evidence for their effectiveness is still lacking.

Although we have not tabulated epidemiological data on cases of SCD in individuals with schizophrenia in our facility, many of our psychiatrists have reported the occurrence of fatal events among our patients, reinforcing that schizophrenia-related mortality, particularly sudden cardiac death, is a significant public health concern at a global level. It is crucial that a concerted and collaborative approach be implemented to tackle this worrisome problem. Based on the success of the SUDEP23,24 program, we believe that a similar program could be instituted for reducing the risk of or preventing sudden cardiac death in patients with schizophrenia. Resulting data from this program could then be prospectively tested in patients with schizophrenia to determine their effectiveness in preventing or minimizing the occurrence of sudden cardiac death.

Acknowledgements

This study has been supported by the following grants: Fapesp (Fundação de Amparo à Pesquisa do Estado de São Paulo); CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico); Fapesp/Fapemig; Fapesp/Pronex and Fapesp/CNPq/MCT (Instituto Nacional de Neurociência Translacional).

References