Worldwide more than 16 million people suffer an acute stroke every year. Over 80% survive the acute insult but most victims are unfortunately left with long-term neurological deficits making stroke the leading cause of chronic disability in adults. In Pakistan, the incidence of stroke has not been well studied but the number is conservatively estimated as 350,000 per year. There is an urgent need to establish a comprehensive programme in Pakistan to study the epidemiology of the disease and to develop techniques to improve education of medical personal and allocation of appropriate resources across the spectrum of health care organizations so that the problem can be better managed. This editorial is focused on three main issues, prevention, education and management of the patient who presents with an acute stroke.

Research during the last 50 years has led to the better identification of risk factors for vascular diseases. Major modifiable risk factors include uncontrolled hypertension, diabetes, smoking, obesity, sedentary lifestyle and high cholesterol. The presence of abdominal obesity, hypertension, low HDL cholesterol combined with albuminuria (the metabolic syndrome) is a marker of increased risk, especially in individuals of Southeastern descent. In Pakistan untreated hypertension and perhaps genetic factors also contribute in a higher percent of patients presenting with cerebral haemorrhages, a condition that carries a much graver prognosis. There is good evidence that treatment of such risk factors can significantly reduce the risk of haemorrhagic and ischaemic stroke. A reduction in diastolic blood pressure of as little as 6 mmHg can result in a highly significant 42% relative risk of stroke over 5 years. There is also evidence from at least two sources that early evaluation and appropriate management of patients at the highest risk of stroke and patients presenting with a transient ischaemic attack (TIAs), can have the risk of subsequent stroke reduced by over 80%. This level of reduction can however only be achieved if the patients are evaluated early and treatment initiated immediately.

Stroke together with other atherosclerosis related diseases are global problems of immense proportions. What can we do in Pakistan to reduce the burden of disease? Prevention is the key to success. We require 'reader-friendly' texts at all levels of education on risk factors of atherosclerosis. Early awareness may be particularly rewarding if it becomes part of the educational curriculum at the high-school level. Stroke risk factors need recognition in mass media campaigns and require repeated promotions. Healthy eating, exercise, smoking cessation, diagnosis and effective management of hypertension and diabetes are essential components of such awareness programmes.

The work does not stop there. The minimal time devoted to teaching of atherosclerosis in the medical college curriculums has been a subject of long neglect. For stroke prevention, we need to focus on the understanding and management of risk factors. The students also require an understanding of how well to recognize and treat TIAs and minor strokes. Forty percent of strokes are preceded by a TIA and the risk of stroke in such individuals is 'front-loaded'. Large case-series from a variety of sources support the hypothesis this risk is at least 10% at 90 days and over half of the events occur within the initial 48 hours of the TIA. This risk can be lowered to under 2% if such patients are evaluated within 24 hours from onset and aggressively managed.

Despite efforts at prevention, stroke will still occur. While a fortunate few may benefit from thrombolysis, in the vast majority prevention of complications and prophylaxis against further events still remains the best strategy to manage such patients. All large hospitals must establish stroke units for management of stroke patients. Meta-analysis from several studies indicate that this mode of care results in a significantly higher number of patients discharged home independently. Such Units are not expensive and should be part of any comprehensive stroke strategy for Pakistan.

These are challenging times in the health care system in Pakistan. Very little of the meager resources are allocated to prevention of vascular diseases. There are compelling epidemiological and scientific reasons that the incidence of such diseases will increase in the coming decades. By better understanding of the immensity of the problem and appropriate allocation of funding at the national level, we can hope to bring dividends to the population at risk.
References


FROM THE EDITOR'S DESK

The present issue comprises of articles from all categories on the subject of STROKE. It is the second in series on subject of Neurology. The credit for this issue goes to the very academic minded Neurologists from all over the country and some from abroad. They have worked hard to produce the latest research results on various aspects of Stroke. Due to the small number of Neurologist contributors, there is a repetition of the names in the same issue. This has to be overlooked.
All the contributors are acknowledged and congratulated.

Original Article

Brain Death: Concepts and knowledge amongst Health professionals in Province of Sindh, Pakistan

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Abstract

Objective: Last few decades have seen improved resuscitative measures and use of life saving machines like ventilators. Due to these dramatic interventions, end of life decisions, including brain death and organ transplantation, have become more complex and a major problem in our clinical practice. This study was done to find the opinion and awareness of physicians regarding issues surrounding brain death in this region.

Methods: A total of 259 questionnaires were analyzed that encompassed physicians at different level of training and students in the final year of their training, from five major tertiary care centres, located at Karachi and Hyderabad and who are involved in decision making about brain death and related issues.

Results: One hundred and forty one (54 percent) respondents did not have a clear idea regarding the definition of brain death. Majority of doctors 122 (47 percent) would therefore not turn off the ventilator even in a brain dead patient. Sixty seven (26 percent) actually considered it Euthanasia. Most considered 24 hrs as optimal period before confirming the diagnosis of brain death. Most of the doctors favoured a confirmatory test, like an electroencephalogram, to confirm the diagnosis of brain death. Majority of the doctors (68 percent) would not consider stopping ventilatory support of a patient in a persistent vegetative state.

Conclusion: This study highlights the lack of understanding and confusion regarding issues surrounding brain death in this region especially among junior doctors and highlights the importance of including these issues in the medical curricula (JPMA 58:352;2008).

Introduction

The term "brain death" is widely accepted by health care professionals, physicians and 'General public' in most parts of the world.1 It is not well studied whether there is a clear concept of brain death amongst our physicians, who are ultimately responsible for making critical decisions.

Studies done elsewhere suggest lack of awareness and misunderstanding on many issues regarding brain death, persistent vegetative state (PVS) and differentiation between severe brain injury versus brain death.2,3 At times, the ethical and religious considerations have also been found to affect decisions regarding diagnosis of brain death.1,4,5 The concept of brain death was first