

Commentary

Ischemic stroke is feared by public because of motor, sensory, and cognitive impairment that lead to long-term disability and institutionalized care^[1] and until few years ago stroke was the third cause of mortality and the leading cause of long-term disability in the industrialized countries. But after the NINDS-rtPA stroke trial,^[2] a new era began in managing acute stroke. More attention has been paid to acute stroke patients, considering that the first hours after stroke as the “golden hours”. This approach led to improve acute stroke management proposing the broad using of reperfusion therapies and recommend acute stroke care in the setting of stroke units.^[3-5]

Recently, it has been reported that stroke mortality has been declining and it represents a major improvement in population health observed in both sexes and for all racial/ethnic and age groups, hence leading stroke to be the fourth cause of death in the US.^[6] Of course there is not only one reason for this result, but many factors also play a role in this story. Conventional stroke risk factors, such as hypertension, atrial fibrillation,

cigarette smoking, diabetes mellitus, and obesity are well established causes of stroke, then anticoagulants for atrial fibrillation and public health policy in eating, smoking, and promoting exercise and pressure control have been playing a role in reducing incidence of stroke; in contrast, the reperfusion strategies that have been developing in acute stroke management play a key role after stroke onset. At the beginning, to reduce side effects and to enhance reperfusion rates, intraarterial reperfusion strategies have been developed. This approach should have warranted more benefits with less systemic effects. However novel and more aggressive therapies for acute management of stroke not always shows improvements compared with previous treatments as demonstrated by results of IMS III^[7] and SYNTHESIS^[8] in which no significant difference in functional independence was proven with endovascular therapy after intravenous rt-PA, as compared with intravenous rt-PA alone for the former and endovascular treatment was not superior alternatively to intravenous rt-PA for the latter, in acute stroke patients. Of course several points should be taken into account to evaluate these results such as study

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designs, primary and secondary outcome measures used, personnel involved in the study, equipment, etc., and for these reasons, the results are not conclusive; but one point is obvious: If these approaches would be widespread, much more patients may benefit from them. However, it is still debated which reperfusion therapy would be more effective whether systemic or local thrombolysis, but in acute stroke management, stroke care in the context of stroke units has demonstrated useful^[4] independent of the reperfusion therapy used. However, stroke units unavailability and narrowed time window for reperfusion therapies determine a significant reduction of the number of patients accessible of acute treatment determining that approximately 95% of patients with acute stroke are not being treated with either intravenous or intraarterial reperfusion therapies.^[9] New trials have been tested and hopefully in the next few years, new and even more effective therapeutic strategies will be tested to expand the treatment options for acute stroke patients and to enlarge time window but the new battle field for the stroke care will be stroke prevention and the broad diffusion of stroke units. Research will go ahead to develop new strategies and new drugs for acute stroke management that should determine better rate of reperfusion and recanalization or extending time window and it would be helpful to reduce the burden of stroke impairment but currently much more improvements may be expected from wide-world use of available approaches in every hospital managing stroke patients.

In conclusion, stroke is a serious disease due to burden of impairments causing health and economic problems for the population and it is conceivable that a multi-directional approach is much more valuable: One way should be focusing on reducing the incidence of stroke, by controlling risk factors using open-minded public health policy and promoting healthy styles of life; but of course even more attention should be paid to acute stroke management. Research should continue to discover more effective drugs and techniques allowing better rates of reperfusion, but if there are few hospitals in which these approaches will be available, we can assume that few patients will be treated.

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