

AVC - Optimizing Pre-Hospital Care For A Time-Sensitive Disease

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Editorial referring to the article: Pre-hospital Care for Suspected Stroke Patients, Cared for by Mobile Emergency Care Units in Northern Minas Gerais

The care of patients with acute illnesses, in which the time to start treatment can have an important influence on the prognosis, requires a strategy based on well-defined structure and processes. Acute stroke is a disease whose prognosis is causally related to the length of care, and the possibility of implementing cerebral reperfusion therapies and neuroprotective measures. The recommendations suggest that the time should be optimized in the different phases of care, in the recognition of signs and symptoms, medical evaluation, computed tomography and thrombolysis, for patients who meet the criteria for their performance. The instruction of the population to identify the clinical manifestations of stroke, prioritizing the search for assistance, is an important step in this chain of treatment, which can modify the outcomes of this disease.¹

As a result, access to treatment is another major challenge. Interventions that effectively demonstrated an impact on outcomes in acute ischemic stroke, need a structure that can be supported, in large part, by telemedicine, significantly increasing patient access. National experiences have shown important results in improving the rate of pharmacological thrombolysis and thrombectomy, when designing a service network strategy with the support of neurologists, neuroradiologists and neurointerventionists.

The complexity of the structures for the treatment of acute stroke requires a structured medical evaluation and the possibility of performing computed tomography. It is important to understand that smaller hospitals cannot

offer this type of treatment and the identification of hospitals that can receive patients transferred from their homes or from other care units is valuable. The study by Mochari-Greenberger, et al.² showed that patients evaluated by the pre-hospital medical service managed to be seen and treated more quickly and efficiently considering the time of arrival at the emergency room, medical care, and thrombolysis rate.² The management of an assistance model based on the training of professionals and transport logistics brings benefits to patients in different forms of clinical outcome.

The study published by Gusmão et al.,³ Pre-hospital Care for Suspected Stroke Patients, Cared for by Mobile Emergency Care Units in Northern Minas Gerais, analyzes the prehospital care of patients with suspected acute stroke (SAMU), in the north of the state from Minas Gerais, through the Mobile Emergency Care Service.³ The services offer coverage over a wide geographical area, including rural areas, 299 patients with suspected acute stroke were observed, with a mean age of 70 years. The motivation of the call shows the motor deficit, the worsening of speech and facial asymmetry as the most frequent ones, reinforcing the importance of the Cincinnati Scale in the evaluation of these patients.⁴ Approximately 25% of the calls did not have the activation of the red code by the service ambulance call, considered a top priority. After assessing the call motivations, all related to the risk situation, it is possible that there is an opportunity for improvement at this stage of the process. Likewise, the difficulty in describing the onset of signs and symptoms, described by 76.3% of patients, shows the need to instruct the population in the recognition of clinical manifestations so it would not delay the start of care. The response times measured at the time of calling, leaving the ambulance, and arriving at the destination hospital, showed, despite the large geographic area, excellent results with a “global

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response time," described as the time between the call until the patient's arrival at the destination hospital, on average 57 minutes.

The great contribution of Gusmão's article is to identify, within the line of pre-hospital care for patients with acute stroke, opportunities for improvement in training, structure, and processes. The use of telemedicine, filling treatment gaps, as shown in national and international

publications, can optimize the possibility of a part of this population to have access to reperfusion and brain protection strategies, which would mean the real utility of the care model.^{5,6}

Therefore, the intervention in places with the possibility of improvement in the care process, with the incorporation of indicators related to clinical results, may be a suggestion to the authors for a future publication.

References

1. Ojike N, Ravenell J, Seixas A, Masters-Israilov A, Rogers A, Jean-Louis G, Ogedegbe G, McFarlane SI. Racial disparity in stroke awareness in the US: an analysis of the 2014 National Health Interview Survey. *J Neurol Neurophysiol.* 2016;7(2):1000365.
2. Mochari-Greenberger H, Xian Y, Hellkamp AS, Schulte PJ, Bhatt DL, Fonarow GC, et al. Racial/ ethnic and sex differences in emergency medical services transport among hospitalized US stroke patients: analysis of the national Get With The Guidelines-Stroke Registry. *J Am Heart Assoc.* 2015;4:e002099.
3. Gusmão LL, Nascimento IJB, Rocha GAS, Oliveira JAQ, Machado GSB, Antunes IO, Sant'anna RV, et al. Pre-hospital Care for Suspected Stroke Patients, Cared for by Mobile Emergency Care Units in Northern Minas Gerais. *Int J Cardiovasc Sci.* 2021;34(3):245-252.
4. Kasner SE. Clinical interpretation and use of stroke scales. *Lancet Neurol.* 2006 Jul;5(7):603-12.
5. Hatcher-Martin JM, Adams JL, Anderson ER, Bove R, Burrus TM, Chehena M, et al. Telemedicine in neurology: Telemedicine Work Group of the American Academy of Neurology update. *Neurology.* 2020 Jan 7;94(1):30-8.
6. Carvalho VS Jr, Picanço MR, Volschan A, Bezerra DC. Impact of simulation training on a telestroke network. *Int J Stroke.* 2019 Jul;14(5):500-7.

