Neurointervention: should we specialize in stroke only? Pros

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From the Lisbon Stroke Summit, Lisbon, Portugal. 6–7 April 2018.

Abstract

The treatment of acute ischemic stroke has suffered a change in paradigm, with the demonstration of the benefit of mechanical thrombectomy (MT) in selected patients. The number of MT procedures is rapidly increasing, and stroke networks need to adapt to be able to provide this treatment to the majority of eligible patients. Adaptations are needed in multiple domains, namely in distribution of MT-providing centers, human resources, training of professionals, diagnostic and physical resources, communication systems and transfer protocols.

It is being increasingly discussed where should MT be provided, and who should perform it. A solution which ensures high-quality care, in highly differentiated centers, by highly experienced professionals, may not be compatible with an equitable distribution of care, especially in conditions with a high incidence such as ischemic stroke. A balance between quality and expertise of care, and availability and feasibility of care must be achieved, because both the eligibility for and the benefit of MT are time-dependent. Considering the incidence of ischemic stroke in high-income countries (168 per 100,000 persons/year) and the expected proportion of patients eligible for MT (up to 15-20%), the number of MT/year performed in a primary stroke center with a catchment area of 200,000-300,000 inhabitants would be at least similar to the number of MT performed in high-volume centers, as defined presently in the literature. In order to maximize resources, interhospital transfer times and populational density must also be taken into account. Because other conditions, such as vascular malformations, are much less frequent, primary stroke centers will not have enough case volume to perform other endovascular treatments with quality. This does not obviate the need of a comprehensive training in endovascular neurointervention and continuous education and monitoring after accreditation.

In conclusion, in the appropriate setting, specialization in stroke by neurointerventionalists is needed.