Trends for Optimal Management of Acute Stroke Patients in 2017

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Stroke still remains the most common cause of disability worldwide and is responsible for the third largest number of deaths [1-3]. Proven therapies for stroke are listed in Table 1. IV administration of Tissue Plasminogen Activator (rt-PA) [4] and endovascular thrombectomy [6-8] revolutionized the management. However, due to the short therapeutic window for therapies, early recognition of stroke and urgent transfer to a specialized stroke unit [9] is of paramount importance in order to salvage ischemic brain tissue: “Time is Brain” [11, 12]. The first step is to evoke stroke.

For prehospital management, since stroke is a medical emergency it is crucial for attending General Practitioner (GP) to recognize the symptoms and signs of stroke or transient attack (and to educate patients/lay people). Only two thirds of primary care physicians immediately transferred patients with clear stroke symptoms to a hospital emergency department [13].

In order to make a rapid diagnosis of stroke in the field by paramedical staff or medical practitioners by phone, simplified algorithms have been developed. The most useful is FAST developed by the US National Stroke Foundation (www.strokefoundation.com). FAST (Face, Arm, Speech, Time) should facilitate rapid stroke recognition and phone to the emergency medical number of the state, for SAMU (the number 15 in France, 911 in United States). Exact time of first symptoms onset are major information to transmit to stroke team. Organizing prehospitalization care is essential to minimize the delay of therapy initiation. Transport to the closest primary stroke center or comprehensive stroke center should be immediate and rapid. It may even involve air medical transport [14]. Implementation of the guidelines for stroke organization shorten the course of procedures in the acute phase and may improve the patient’s outcome (Table 2). In patients with moderate or severe clinical deficit (NIHSS>8), vascular intracerebral is advocated to select the subjects with large vessel occlusion. In this case, it is recommended to transfer the patient to a center where it is feasible 24/7 to carry out endovascular treatment by a trained neuroradiologist [3,16].

This secondary treatment should not postpone the fibrinolysis administration. Initial acute clinical examination by a neurologist evaluates the level of consciousness and search the focal neurologic signs (Table 3). Assessment of the neurological deficit using the NIH Stroke Scale correlates with the site of arterial occlusion. The use of NIHSS by Helicopter Emergency Medical Service providers may identify patients with large vessel occlusion and inform triage decision for patient ineligible for rt-PA [17]. Reliability of the clinical diagnostic of vascular territory (carotid versus vertebrobasilar) is only moderate [18]. It is not possible to distinguish ischemic and hemorrhagic stroke with the sole clinical examination. CT scan is since the institution of thrombolysis an integral part of acute stroke diagnostics. CT angiography was used as a selection criterion in all recent studies using thrombectomy for acute occlusion of the main intracerebral artery and demonstrated the benefit of thrombectomy in patients with acute occlusion of the main intra-cerebral artery [6-8] with reduced severity of post stroke disability and increased the rate of functional independence [8]. Moreover, patients with contraindications for thrombolysis could also be included for thrombectomy.
References


Table 3: Symptoms of stroke and Transient Ischemic Attack (TIA).

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Symptoms of stroke and Transient Ischemic Attack (TIA)</th>
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<tbody>
<tr>
<td>01</td>
<td>Sudden onset of weakness of face, arm, hand or leg</td>
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<tr>
<td>02</td>
<td>Sudden onset of sensory symptoms on one side of the body</td>
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<tr>
<td>03</td>
<td>Sudden onset of vertigo or ataxia</td>
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<tr>
<td>04</td>
<td>Sudden loss or difficulty in speech</td>
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<tr>
<td>05</td>
<td>Sudden loss of vision or diplopia</td>
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