MDR in AIS

Minimizing Door to Reperfusion Times in Drip and Ship Model for Patients with Acute Ischemic Stroke

KEYWORDS

Acute Ischaemic stroke, Health services research, Multicentric Clinical Trial, Endovascular therapy & Thrombolysis, Optimization of treatment times and costs, Optimization of transport decision-making, Medical software implementation

DURATION

36 months

ABSTRACT

Title: Minimizing Door to Reperfusion Times in Drip and Ship Model for Patients with Acute Ischemic Stroke. Abstract: This study aims to improve the in-hospital stroke care pathway for acute ischemic stroke (AIS) patients eligible for mechanical thrombectomy (MT), by minimizing door-to-reperfusion times. The primary objectives are to shorten the time interval between a patient's arrival at the hospital and the initiation of reperfusion therapy and to evaluate the efficacy and safety of the streamlined workflow. The proposed approach involves bypassing the emergency department (ED) and directly transferring eligible AIS patients to the Interventional Neuroradiology Unit while also using a telemedicine system for Real-time information sharing among the stroke team. To evaluate the effectiveness of the streamlined workflow, the study will compare door-to-reperfusion times between the current standard pathway, which involves ED admission, and the new approach. Clinical outcomes, including successful recanalization, 3-month functional independence, mortality, intracerebral hemorrhage rates, and procedural complications, will be assessed. The study will be conducted by an international consortium coordinated by the Siena University Hospital (AOUS), in central Italy, as the comprehensive stroke center (CSC). The clinical settings include: -South-East Tuscany catchment area, encompassing three primary stroke centers (PSCs) and AOUS itself -CHUV Centre Hospitalier Universitaire Vaudois in Lausanne (CH) -Fundación Pública Andaluza para la Investigación de Málaga en Biomedicina y Salud (ES) This collaborative effort will provide valuable insights into the reproducibility and effectiveness of the streamlined pathway in diverse healthcare settings. Data collection will involve both retrospective and prospective studies. The leading center, based in Siena, Italy, will oversee project execution, data collection, and final result analysis. Other partners include Rigas Stradina Universitate will contribute in knowledge acquisition and healthcare related research while Austrian SYNYO, will contribute to project management, stakeholder analysis and Dissemination, Exploitation and Communication (DEC) of the project results. The expected outcomes of this study include a reduction of approximately 30 minutes in door-to-reperfusion times in relevant settings, leading to improved functional and technical outcomes for AIS patients eligible for MT. Safety outcomes, including rates of complications and mortality, are expected to remain comparable. Furthermore, the streamlined pathway is anticipated to yield reduced hospitalization length and alleviate pressure on CSC emergency departments. In conclusion, this study aims to optimize the in-hospital stroke care pathway for AIS patients eligible for MT by minimizing door-to-reperfusion times. The utilization of telemedicine and a streamlined workflow holds the potential to

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improve clinical outcomes and resource utilization in the management of acute ischemic stroke. Keywords: acute ischemic stroke, door-to-reperfusion times, drip and ship model, streamlined workflow, telemedicine, mechanical thrombectomy.

PARTNERS

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