Annual use of tPA for ischemic stroke in Umbria. There a need for a teleconsultation system?

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Re: "Cost-Effectiveness of Hub-and-Spoke Telestroke Networks for the Management of Acute Ischemic Stroke From the Hospitals' Perspectives" Switzer, et al., *6:1 18-26, doi:10.1161/CIRCOUTCOMES.112.967125*

The paper by Switzer gave us the chance to focus on the potential benefits of a telestroke project in areas with neurologist shortage or geographical barriers [1]. We live and work in Umbria, in central Italy. As of 2011, the Italian national institute of statistics ISTAT estimated that 907,000 people live in Umbria, with a 9,8% increase in a decade (average national increase 4,3%). The region has a total area of 8,456 km2 and an inhabitants density of 100 per km2. This means a tenth of Lombardy population with 1 fourth of density. This in a mostly hilly and mountainous area with the Apennines dominating to the east, and other geographical barriers in the plains such as the Tiber river and the largest peninsular lake the Trasimeno. The emergency transport system is fully operative since the end of 1999 leading to a consistent improvement in the quality of acute stroke care and hospital accessibility for the population. But seen the geographical barriers and potential seasonal meteorological variables the appropriate dispatchment of patients is still a major concern. According to the latest governmental data release from Centro Controllo Malattie (CCM), using confirmed cases on Diagnosis Related Groups (DRG), 973 first acute ischemic strokes (AIS) were admitted in the 7 regional hospitals in 2011. The mean 30-day mortality rate was 9,33%. According to the previous CCM survey in 2010 (the data 2011 is not available), 138 patients were admitted in other 10 minor medical centers, without specific stroke services [2,3]. We thereby estimated 1111 cases of first-ever AIS in 2011. Five of 6 stroke services, where tPA treatment is available, joined the Safe Implementation Treatments in Stroke (SITS) registry based in Sweden (4). According to the SITS registry 43 patients were included in the registry for any trombolysis with tPA in 2011 in Umbria, and other 4 cases were treated but not registered. We calculated thereby a 4.23% of tPA usage in the general annual ischemic stroke population, and a 4.83% tPA usage in the ischemic stroke population dispatched in the SITS adherent hospitals, with a 2.6-10% range of tPA usage. Including the 20 subjects enrolled in the International Stroke Trial (IST 3), using tPA up to the 6th hour, the global percentage of tPA administration raised virtually to 6.03% in 2011[5]. The total number of stroke traced according to confirmed DRGs, represents a valuable mean assess the disease, but certainly underestimate the total annual incidence of stroke. Probably our regional health care system will hardly be able to support a program of capillary telemedicine on 17 medical centres. We consider vital to optimize resources and increase the tPA usage in all active SITS registry centers. We are confident that just the sorting of patients with AIS to the centers with higher standards may be a relevant countermeasure. A direct sorting of AIS to SITS centers may lead up to 200 patients a year more to stroke services and boost the i.v. tPA rate use steadily above 5% as expected.

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References 1) Switzer JA, Demaerschalk BM, Xie J, Fan L, Villa KF, Wu EQ. Cost- effectiveness of hub-and-spoke telestroke networks for the management of acute ischemic stroke from the hospitals' perspectives.Circ Cardiovasc Qual Outcomes. 2013 Jan 1;6(1):18-26. 2) Beltramini A. Gli speciali di focus n 245. pag 36 Gruner+Jahr/Mondadori, Milano 2013 3) http://www.focus.it/fileflash/ospedali2012/chiudere/ictus_2010.pdf 4) https://sitsinternational.org/ 5) http://www.dcn.ed.ac.uk/ist3/ClosingDown/progress_closedown_only_recruiters.pdf

Conflict of Interest:

None declared

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