In Taiwan, more than 20,000 patients are hospitalized annually because of acute ischemic stroke (AIS). Alteplase, administered intravenously within 3 hours of the onset of stroke symptoms, remains the major approved pharmacological therapy for AIS. However, the nationwide utilization rate of alteplase was less than 3% from 2003 through 2010. This underutilization might be partially attributable to the fear of medicolegal problems if post treatment hemorrhagic complications occur, a mismatch of guidelines and Taiwan’s National Health Insurance (NHI) reimbursement policy, and a lack of financial incentive for physicians and stroke team members to deliver alteplase within the narrow 3-hour time window. Regulators tried hard to improve the thrombolytic use through hospital accreditation, but complaints arose. In 2015, Taiwan Stroke Society (TSS) and Taiwan Neurological Society actively opened formal communications with the regulators and NHI Administration about those problems:

1. To protect physicians in clinical practice, TSS suggested that Taiwan’s Food and Drug Administration make evidence-based changes to the labeling of Actilyse (alteplase) in February 2016. First, “age > 80 years” was removed as an absolute contraindication. Second, a statement was added in the warnings and precautions that “there was a 12.41% risk of symptomatic intracerebral hemorrhage for a standard dose (0.9 mg/kg body weight) of alteplase in 71- to 80-year-old patients in an observational study”.

2. About 50% of the AIS patients who arrived at hospitals within the time window were excluded from thrombolysis due to mild stroke symptoms, defined as having a National Institutes of Health Stroke Scale (NIHSS) score < 6 by Taiwan’s NHI Bureau in 2004. This lower limit of a NIHSS score < 6 for thrombolysis eligibility was a mismatch with the updated guideline of < 4.
November 2015, Taiwan’s NHI Administration revised the lower limit to < 4.4. After several negotiations, NHI started to reimburse hospitals an evaluation fee of 13,866 points (1 point ~ 0.8 NTD or 0.025 USD) for alteplase administration to eligible AIS patients in January 2016. Although such reimbursement is still much lower than that in other developed countries (e.g., ¥ 120,000 in Japan), hospitals in Taiwan should use it adequately on their stroke teams to improve the timeliness and quality of stroke thrombolysis. Thus, more patients with AIS are expected to be treated and have a good recovery.

Other medical society, for example, the Taiwan Emergency Medical Society, also contributed in those communication processes. This successful interaction between the physicians, regulators, and NHI Administration may have implications for other medical societies and associations in Taiwan. Although new medical knowledge and techniques continue to rapidly emerge and to be globally shared almost instantaneously, every country has its own unique practice environment, insurance status, and regulation policy. Physicians, as leaders of most medical teams, should try their best to adopt the most updated evidence-based medicine in their daily practice. However, if the practice milieu cannot afford sound logistics for the medical team, as in the case of stroke thrombolysis in Taiwan, physicians should voice their concerns and actively communicate with the stakeholders to improve the situation.

Lastly, as the stroke treatment has evolved to intravenous thrombolysis bridging with endovascular therapy, more novel devices and techniques will be applied in routine practice. TSS should keep cooperating with all allied medical societies (e.g., emergency medicine or neuroradiology) to endeavor an adequate practice environment for the implementation of endovascular therapy and better outcomes of patients with AIS in Taiwan.

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References

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