

# Strengthening the ‘chain of brain survival’ for acute stroke patients

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*To the Editor*—I refer to the original article titled “Ambulance use affects timely emergency treatment of acute ischaemic stroke” written by Lau et al<sup>1</sup> in the August issue of the *Hong Kong Medical Journal*. The authors established that stroke patients who took an ambulance to hospital had a higher chance of fulfilling the time criteria for thrombolytic therapy. This finding can be readily explained as this group of patients had been aware of the significance of their symptoms and promptly resorted to the correct means to seek help.

In the last paragraph of the discussion, the authors have hinted that the publicity campaign against misuse of ambulances adversely affected their utilisation by acute stroke patients. I am afraid this is an allegation that is unsubstantiated unless it can be supported by more robust information. In my opinion efforts at improvement should focus on promoting vigilance for acute stroke symptoms and thus strengthen the ‘chain of brain survival’.

There are various reasons why stroke patients delay seeking help:

1. Unlike acute myocardial infarction that usually is associated with alarming chest pain, stroke symptoms can be subtle and patients may not be aware of their significance and urgency.
2. Stroke presents with negative symptoms and loss of function. Patients may lose the ability to seek for help.
3. Stroke symptoms may wax and wane. Patients may adopt a wait-and-see policy to see if they recover.

Efforts should focus on these issues. The key is to increase public awareness of the signs and symptoms of acute stroke, as already mentioned by the authors in their conclusion. Public education should reach potential patients, relatives, caregivers, and even neighbours through appropriate channels. The fact that acute stroke is a medical emergency and that suspected cases require urgent transfer to an acute hospital by ambulance cannot be over-emphasised. Advances in technology enable digital devices such as Safety Phones and smart watches to facilitate early identification of patients who have difficulty calling for help. To further strengthen the ‘chain of brain survival’, some hospital accident and emergency departments and the Hong Kong Fire Services Department are developing pre-hospital stroke identification and notification protocols to

shorten the door-to-intervention time. This pilot project has just commenced in the Queen Mary Hospital catchment area. It will be interesting to see if this system change can improve acute stroke management and outcome.

## Declaration

All authors have disclosed no conflicts of interest. All authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

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## Reference

1. Lau KK, Yu EL, Lee MF, Ho SH, Ng PM, Leung CS. Ambulance use affects timely emergency treatment of acute ischaemic stroke. *Hong Kong Med J* 2018;24:335-9.

## Authors’ reply

*To the Editor*—We thank Dr Tsui for his letter. Early in the planning stage, we did not underestimate the potential consequence of collecting data about why patients may or may not call an ambulance. We decided not to collect such data for several reasons. First, we felt that including the patients’ reasons for not calling an ambulance may have diverted the attention of the reader from the main aim of our study. Second, when such questions are asked, patients’ relatives may be made to feel guilty for their decision to not call an ambulance.

When relatives volunteered a reason for not calling an ambulance, we carefully considered whether to include such information in the discussion. This information was ultimately included for the following reasons. First, the effect of “the government public information campaign that encouraged individuals to not misuse the ambulance” was the principal reason that relatives reported for not calling an ambulance. Second, this feedback may arouse the interest of other research groups who are better equipped to research this topic. We look forward to a well-planned study that will address this

issue and that will improve stroke services in Hong Kong.

The three reasons mentioned in the letter are hypothetical. They are not from our paper and we decline to comment further.

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## CORRECTION

### Correction to: Ambulance use affects timely emergency treatment of acute ischaemic stroke.

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In Table 1, on page 337 of the above article, there is an extra header ‘Postoperative day’ in the first column, which should be left blank instead.

The online article at [www.hkmj.org](http://www.hkmj.org) has been corrected.