Letters to the Editor

The Allen test is not adequate enough for the screening of hand circulation

Marco Agrifoglio, Fabio Barili *, Luca Dainese, Paolo Biglioli
Department of Cardiovascular Surgery,
University of Milan, Centro Cardiologico Monzino IRCCS,
Via Parea 4, 20138 Milan, Italy

Received 20 December 2007; accepted 17 January 2008

Keywords: Radial artery; Coronary artery bypass grafting; Ultrasonography; Allen test

We read with great interest the article by Kohonen et al. [1] dealing with the diagnostic role of the Allen test in the evaluation of hand circulation. We congratulate the authors for their study. Nonetheless, it raises some concerns and the conclusions should be debated.

The study design shows some lacks and needs to be implemented. The clinical Allen test is subjective, as underlined even by the authors in the introduction. Hence, it should be performed by diverse physicians on the same patient in order to test its validity and to eventually unmask the role of physician’s experience as a confounding factor. The physician appears to be expert and well trained, as he is confident even with the instrumental tests (i.e. Doppler ultrasonography and digital plethysmography) and he could not represent a valid and reproducible model in the clinical practice. Moreover, clinical and instrumental tests should have been blinded, as the result of the ultrasonography can influence the evaluation of the Allen test. These issues are further underlined by the lack of a clinical definition of circulation abnormality. The instrumental tests give numerical and objective data that can be defined as abnormal while the assessment of circulation abnormality in the capillary filling of the fingers cannot be objectively stated and is only dependent on physician’s skills.

The clinical Allen test cannot show the absolute and relative contraindications to radial artery harvesting. It gives no morphological information about eventual disease of the vessel and it can show a negative result although the artery is severely diseased. Moreover, the authors state that an absolute contraindication for radial artery harvesting is the evidence of zero pressure in thumb during arterial compression but this quantitative evaluation cannot be performed with a simple clinical Allen test and needs instrumental tests.

In addition, an important issue in medicine is the medico-legal aspect. Doppler ultrasonography may have an important role from this point of view, as it allows the identification of patients with a marginal or inadequate collateral blood supply of the hand, not observed with clinical Allen test [2], and can give quantitative and qualitative data on the radial artery that can justify the harvesting of the graft. The lack of this information could represent a medico-legal issue in case of unexpected complication.

Although well conducted and described, the study by Kohonen et al. [1] leads to conclusions that are not sharable. In our opinion, it is always mandatory to have a preoperative ultrasound study, as a false-negative clinical Allen test can lead to severe consequences in terms of both clinical outcome and medico-legal issues.

References


* Corresponding author. Tel.: +39 02 58002355; fax: +39 02 58011194.
E-mail addresses: fabarili@libero.it, fabio.barili@unimi.it (F. Barili).
doi:10.1016/j.ejcts.2008.01.018

Letter to the Editor

Is the Allen test reliable enough?

Yahya Unlu *
Department of Cardiovascular Surgery,
Medical Faculty, Atatürk University Hospital,
Erzurum, Turkey

Received 3 January 2008; accepted 17 January 2008

Keywords: Radial artery; Coronary artery bypass grafting; Ultrasonography; Allen test

I read with interest the article titled ‘Is the Allen test reliable enough?’ The authors enrolled in this study 145