EDITORIAL

How important is telemedicine in the early phase of STEMI?

¿Cuán importante es la telemedicina en la fase inicial del IMCEST?

PETR WIDIMSKÝ[1, FESC, FACC]

Silberstein A. et al. (1) in this issue of the Argentina Journal of Cardiology present data on the development of a regional STEMI network including incorporation of a telemedicine system with 24-hour web-based electrocardiogram inter-hospital transmission, theoretical-practical courses, written algorithm for the management of chest pain and for STEMI and a system of private ambulances incorporated for transfer of primary PCI patients. The authors should be congratulated on the progress they made during few years: almost from "scratch" they developed an effective STEMI network. The focus of this article is on telemedicine and one paragraph is even described as "influence of telemedicine on reperfusion". I would like to describe here two different views on the use of telemedicine in acute STEMI.

1. ***Telemedicine used to select patients for reperfusion therapy and to speed-up the initiation of such therapy***. In countries or regions, where first medical contact is mostly without a physician (e.g. nurses or paramedics serving in the emergency medical service – EMS – ambulances) or where patients with chest pain are first seen by a medical doctor inexperienced in reading electrocardiograms (ECG), transmission of 12-lead ECG is very useful, especially when the tertiary cardiology center performing primary percutaneous coronary interventions (pPCI) is overloaded by too many patients and/or has limited capacity of intensive care unit (ICU) beds. In these situations ECG teletransmission helps to select the right patients and to transfer them to the right places (i.e. directly to a cath-lab as fast as possible).
2. ***Telemedicine not needed or even delaying treatment***. In areas, where first medical contact is frequently by an experienced physician able to diagnose STEMI from ECG (e.g. SAMU in France, some regions in the Czech Republic) and where patients with chest pain are presenting to doctors experienced in reading ECG and where tertiary cardiology centers have sufficient capacity to admit more patients, telemedicine is not needed. In this situation if a patient with chest pain suspected to be due to STEMI is brought directly to the tertiary center, it may be the best option for this patient even when he/she does not have STEMI. Some of these patients may have other acute life-threatening disorders (non-STEMI, unstable angina, aortic dissection, pulmonary embolism etc.) and they may benefit from admission to a high volume center with extensive experience in treatment of these diseases. Furthermore, effective telemedicine requires excellent coordination. In suboptimal situations the delayed ECG reading in the tertiary center or any communication problems between the two hospitals (or between EMS and the hospital) may delay the beginning of transport (patient is waiting for the decision whether to transport or not) and may harm the patient. My personal view for the situation in Czech Republic is negative: in our country the capacity of PCI centers is sufficient to admit all STEMI patients and also to make the differential diagnosis for other chest pain situations. Real-life experience says, that approximately 10% of patients transferred for pPCI do not have an acute STEMI, but many of them have other acute cardiovascular problem and some benefit from such transfer to a similar extent as STEMI patients.

When seen from the international perspective, probably the telemedicine use (option 1) is beneficial for most countries or regions and fewer countries are suitable for the other option.

Conflicts of interest
None declared
(See author's conflicts of interest forms in the web / Supplementary Material).

REFERENCES

1. Silberstein A, De Abreu M, Mariani J, Kyle D, González Villamonte G, Sarmiento R, Tajer CD. Telemedicine Network Program for Reperfusion of Myocardial Infarction. Rev Argent Cardiol 2015;83:192-7.

Rev Argent Cardiol 2015;83:185. http://dx.doi.org/10.7775/rac.v83.i3.6392
SEE RELATED ARTICLE: Rev Argent Cardiol 2015;83:192-197 - http://dx.doi.org/10.7775/rac.v83.i3.5595

Address for reprints: Prof. Petr Widimský, MD - Srobarova 50 - 100 34 Praha 10 - Czech Republic - e-mail: petr.widimsky@fnkv.cz

[1] Cardiocenter, Third Faculty of Medicine, Charles University Prague, Czech Republic
[FESC] Fellow of the European Society of Cardiology
[FACC] Fellow of the American College of Cardiology