Letter to the Editor

Response to the letter of Elshazly

Abdurrazzak Gehani*

Consultant Interventional Cardiologist,
Director, Primary Coronary Angioplasty
Program, Heart Hospital,
Hamad Medical Corporation,
Doha, Qatar

*Email: aa.gehani@gmail.com

Dear Editor,

Thank you for forwarding the letter of Dr. Mohamed Elshazly, in relation to our paper "Primary Coronary Angioplasty for ST-Elevation Myocardial Infarction (STEMI) in Qatar: First Nationwide Program". A particular delight is that Dr. Mohamed is a previous student with us from Weill Cornell Medical College in Qatar. His knowledge of the health care system in Qatar was reflected in the good points he raised.

Dr. Mohamed touched on important issues that should guarantee a successful primary PCI program, especially in relation to two issues.

One is the awareness of all health care professionals of how to timely access and refer patients with STEMI, aiming at a door-to-balloon Time (DBT) of <90 min. This was outlined in our paper and practical protocols similar to that of the Mayo Clinic[1] are being prepared.

The second issue is the protocols and procedures to guarantee full compliance with the speed at every step during the diagnosis, referral and transfer of the patients to the Cardiac Catheterization Laboratory.

Another issue which Dr. Mohamed has also touched on, and which is of major interest to us, is the awareness of the patients themselves to the possible symptoms of "heart attack". This is because in Qatar, as in many other countries, the patient delay in reporting the symptoms and seeking medical attention is one of the major causes of delay.

Furthermore, in Qatar as in many countries, patients tend to transport themselves to the hospital, rather than call the ambulance. The disadvantage of this practice is that they may land themselves in a unit without a primary PCI facility, or one with low awareness of the importance of PPCI and the time limits related to it.

Admittedly this out-of-hospital delay is vital, but is not reflected in the DBT, since the latter evaluates the time from moment the patient seeks medical advice to balloon dilatation of the infarct related artery in the cath lab. DBT is a measure of the in-hospital, or healthcare delay, rather than the pre-hospital delay, which can be quite significant.

It may sound odd, but some large registries have suggested that the adjusted in-hospital mortality does not increase significantly with increasing pre-hospital delay. However, there is some evidence that the results obtained by DBT are affected by the pre-hospital delay. An intriguing relationship between the effect of pre-hospital and in-hospital delay times on the outcome of primary-PCI patients was depicted in a study by Brodie et al.[2], using data from the CADILLAC and HORIZONS −AMI trials. They revealed that the DBT made a larger impact on survival in patients who presented early after the appearance of symptoms (short pre-hospital delay) than who came late.

This makes sense since the infarction process does not start when the patient arrives to the hospital, but when, or even before the symptoms are appear. It is for this reason that we emphasized the importance of an awareness program for the public. However, Dr. Mohamed's idea of an online training course for all health care professionals in Qatar is worth considering as part of our national awareness program for both the public and the health care professionals. The other note about timely feedback and regular audit to identify and fix flaws reliably and quickly is also a good addition that have been already considered.

Acknowledgements

REFERENCES

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[2] Brodie BR, Gersh BJ, Stuckey T, Witzenbichler B, Guagliumi G, Peruga JZ, Dudek D, Grines CL, Cox D, Parise H, Prasad A, Lansky AJ, Mehran R, Stone GW. When Is door-to-balloon time critical? Analysis from the HORIZONS-AMI (Harmonizing Outcomes with Revascularization and Stents in Acute Myocardial Infarction) and CADILLAC (Controlled Abciximab and Device Investigation to Lower Late Angioplasty Complications) Trials. *J Am Coll Cardiol.* 2010;56:407–413.