


The Pivotal Role of Effective Communication in Patient Care: A Case of Coronary Stent Thrombosis

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Kofi T Asamoah, BSc, MBChB¹ 

Abstract

Myocardial infarction is a significant cause of morbidity and mortality worldwide, resulting in millions of percutaneous coronary interventions being performed yearly. Coronary artery stents are, however, at risk of thrombosis, with a significant mortality rate. Stent thrombosis is, however, preventable using dual antiplatelets, barring other procedural or unique personal predisposing characteristics. Good communication with patients is indispensable in ensuring adherence to dual antiplatelet therapy, protecting the patient from stent thrombosis. This paper presents a patient who discontinued his dual antiplatelet therapy prematurely and developed stent thrombosis within a week after discharge, highlighting the importance of good communication in promoting adherence to an agreed management plan.

Keywords

myocardial infarction, coronary artery disease, stent thrombosis, percutaneous coronary intervention, doctor–patient relationship, health communication, compliance, dual antiplatelet therapy

Introduction

Cardiovascular disease is the leading cause of mortality globally, mostly due to myocardial infarction (MI) and stroke (1). Percutaneous coronary interventions (PCIs) have helped mitigate the effects of MIs. Stenting coronary lesions during PCI relieves obstructions, though there is always the risk of stent thrombosis with a mortality rate of up to 45% and a five-year recurrence rate of 15%–20% (2). The use of dual antiplatelet therapy (DAPT) in conjunction with stenting, however, greatly reduces this risk to <1% (2,3). With over five million PCIs performed annually across the globe (2), the importance of compliance with DAPT post-PCI cannot be overemphasised.

Early stent thrombosis, defined as thrombotic occlusion of a stent within 30 days of deployment (2,3), accounts for up to 70% of all stent thrombosis cases (2). Premature discontinuation of DAPT is the strongest predictor of early stent thrombosis (3). This is, however, preventable, requiring that doctors communicate effectively with patients to ensure that the patient understands the need for continued compliance with DAPT. Failure to ensure this risks jeopardising the intervention.

Case Summary

A 48-year-old man diagnosed with hypertension and diabetes a month earlier reported to a primary health care facility with

sudden-onset retrosternal chest pain radiating to the left shoulder, diaphoresis and nausea. Clinical examination was unremarkable. Because of his electrocardiogram (ECG; Figure 1A) and elevated cardiac enzymes, a diagnosis of acute anterolateral ST elevation MI was made, necessitating a referral for PCI. He had a coronary angiogram done which showed a total occlusion of the mid-left anterior descending artery (LAD) and a milder mid-left circumflex artery occlusion. PCI was performed with the deployment of a drug-eluting stent to the mid-LAD. He was counselled on the diagnosis, need for DAPT to maintain stent patency and was started on oral soluble aspirin 75 mg daily and ticagrelor 90 mg twice daily while on admission. He was discharged two days after PCI for outpatient review in two weeks. ECG on discharge is shown in Figure 1B.

Nine days after discharge, he experienced another episode of chest pain with features like his previous event. On reporting to a primary health care facility, he had an ECG which

¹ National Cardiothoracic Centre, Korle-Bu Teaching Hospital, Accra, Ghana

Corresponding Author:

Kofi Tekyi Asamoah, National Cardiothoracic Centre, Korle-Bu Teaching Hospital, KB 846, Korle-Bu, Accra, Ghana.
Email: asamoahfiifi@gmail.com



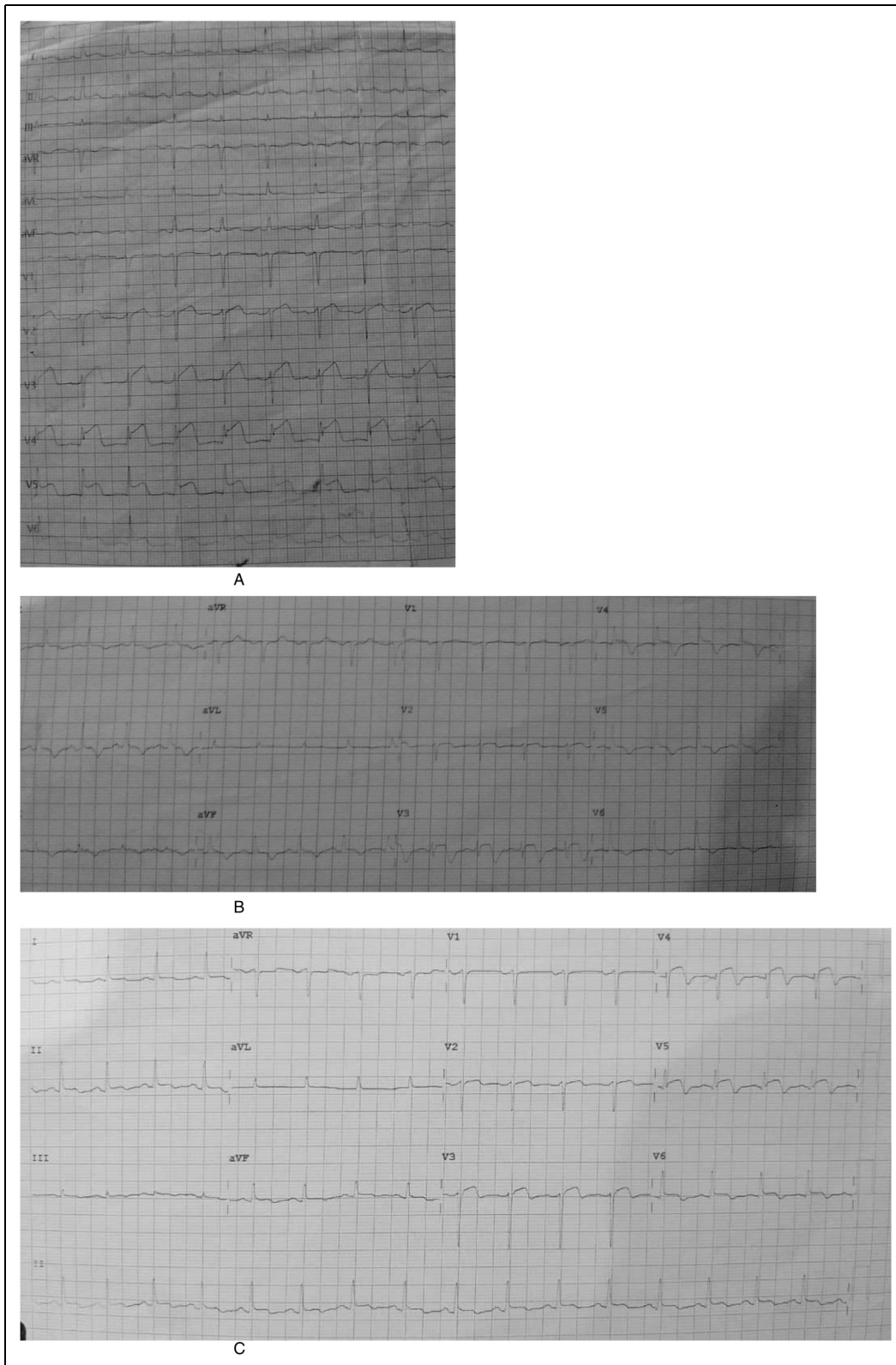


Figure 1. ECG tracings over the two admissions. (A) ECG at the very first onset of chest pain, showing ST segment elevations in leads V3–V6. (B) ECG tracing at the time of discharge after the first PCI, with ST segments back to baseline in leads V5 and V6 and a reduced ST segment amplitude in V3 and V4 compared to presentation, though still elevated. T waves are inverted in inferior, anterior and lateral leads. (C) ECG tracing at the time of readmission for stent thrombosis. ST segments are elevated mildly in leads II, III, aVF and V6. ST elevations are comparatively more prominent in V3–V5 with T wave inversions. There is also poor R wave progression. Abbreviations: ECG, electrocardiogram; PCI, percutaneous coronary intervention.

showed another ST elevation MI, within the same territory of the previous one (Figure 1C). He was therefore referred for assessment. On presentation he revealed that following his earlier discharge, he did not purchase the ticagrelor because he did not fully understand the implications of premature discontinuation despite explanations from his doctor prior to discharge. Blood tests showed a creatine kinase (MB) of 78.65 ng/ml (upper limit=5 ng/ml). Troponin I was negative.

A diagnosis of stent thrombosis was made and he underwent another coronary angiogram which showed a complete obstruction of the stent (Figure 2). A repeat PCI was performed after clot aspiration due to a distal dissection and coronary perfusion was restored. He received extensive counselling on his presentation and the need for compliance with drug therapy. Prior to discharge, he was given written instructions and medications were inspected before his departure. He has been since been compliant.

Discussion

Communication skills are core competencies that every physician must develop (4), forming the foundation of the doctor-patient relationship. Poor communication ranks highest on the list of patient complaints against doctors (5), highlighting its importance. Beliefs, knowledge and understanding are key in shaping behaviour (4) and therefore effecting behaviour change requires culture-sensitive communication to have the desired impact (4-6). While doctors treat patients in hospital continued care at home is self-dependent (7), requiring that doctors and patients develop a shared understanding of the disease process and treatment goals to prevent a breakdown in management (5-7). It is worth noting however that compliance with health-related lifestyle changes may wane from about six months after institution, resulting in poorer compliance with the proposed changes (8).

This patient confirmed that though he had been counselled prior to his earlier discharge, he did not appreciate the gravity of his situation despite the counsel given, resulting in his failure to purchase the DAPT. This suggests that communication was not effective enough to produce the behaviour change of taking daily medication that was sought. Indeed, behaviour-change communication is not a one-off event, as it has been shown that 40%-80% of information is forgotten following the first encounter (9). Informed consent, which involves explaining the pre- and postprocedural protocols, as well as potential complications of the procedure and plans to avoid them, helps improve understanding. Following the procedure, preventive measures must be reiterated; in this case, the continued use of DAPT. In all interactions, patient participation should be encouraged to ensure that there is adequate understanding. Patient recall must also be tested, as that is the surest way to be confident that the intended message has been received (9). Where possible, brochures or written instructions should be given to patients

for easy reference. Physicians must, however, remember that there is the tendency to overinform, running the risk of misinformation (5) as a patient with no prior medical background may have problems processing large volumes of medical information at a go. Counselling for elective procedures should start well ahead of the procedure date so that information can be given gradually to help understanding, though this may not be practical in emergencies.

Effective communication acknowledges unique patient characteristics (6) appreciating that patients are biological beings with psychological and social dispositions that interact intricately to influence their behaviour. Physicians must not be paternalistic in their communication but rather patient-centred, respecting their autonomy (5,7). Reliance on a purely biomedical model of communication, which sees the patient as 'an interesting case to be solved', addresses the illness but does not empower for self-management and continued care in the absence of the doctor, resulting in higher treatment failure rates (5-7). Adopting a biopsychosocial model of patient communication promotes understanding and reduces the risk of compliance-related complications (5-7), thereby reducing hospital costs (5,9).

A major challenge to effective communication is that aside its absence from most medical curricula (5,6), increasing patient numbers mean that doctors have less time to spend with patients and this reduces the time for effective communication even when they want to (5). Furthermore, big hospitals tend to have trainees who rotate frequently through various departments, hampering the establishment of a meaningful rapport based on trust. It may be useful to have dedicated patient educators to build on preliminary education given in the consulting room. Cardiac rehabilitation programmes are cornerstones in the long-term management of patients with coronary heart disease and will be crucial in following up on patients and keeping them educated with updated information (10).

Conclusion

The lessons from this case are applicable in all clinical diagnoses. Effective communication is as important as pharmacological and interventional therapy, especially in patients whose conditions require long-term management such as this. A shared understanding of disease and management is vital in preventing therapy-related complications in patients, including stent thrombosis. Vital information must be repeated in consecutive clinical encounters as it is easy to forget such information without adequate emphasis and patients should be discharged with written instructions that can be referred to for emphasis. Physicians must remember that their role in treatment is often limited to the hospital, whereas home care is dependent on the patient's own understanding of the disease. Efforts must therefore be concentrated on developing the appropriate culture-sensitive communication skills to offer effective behaviour-changing communication to patients.

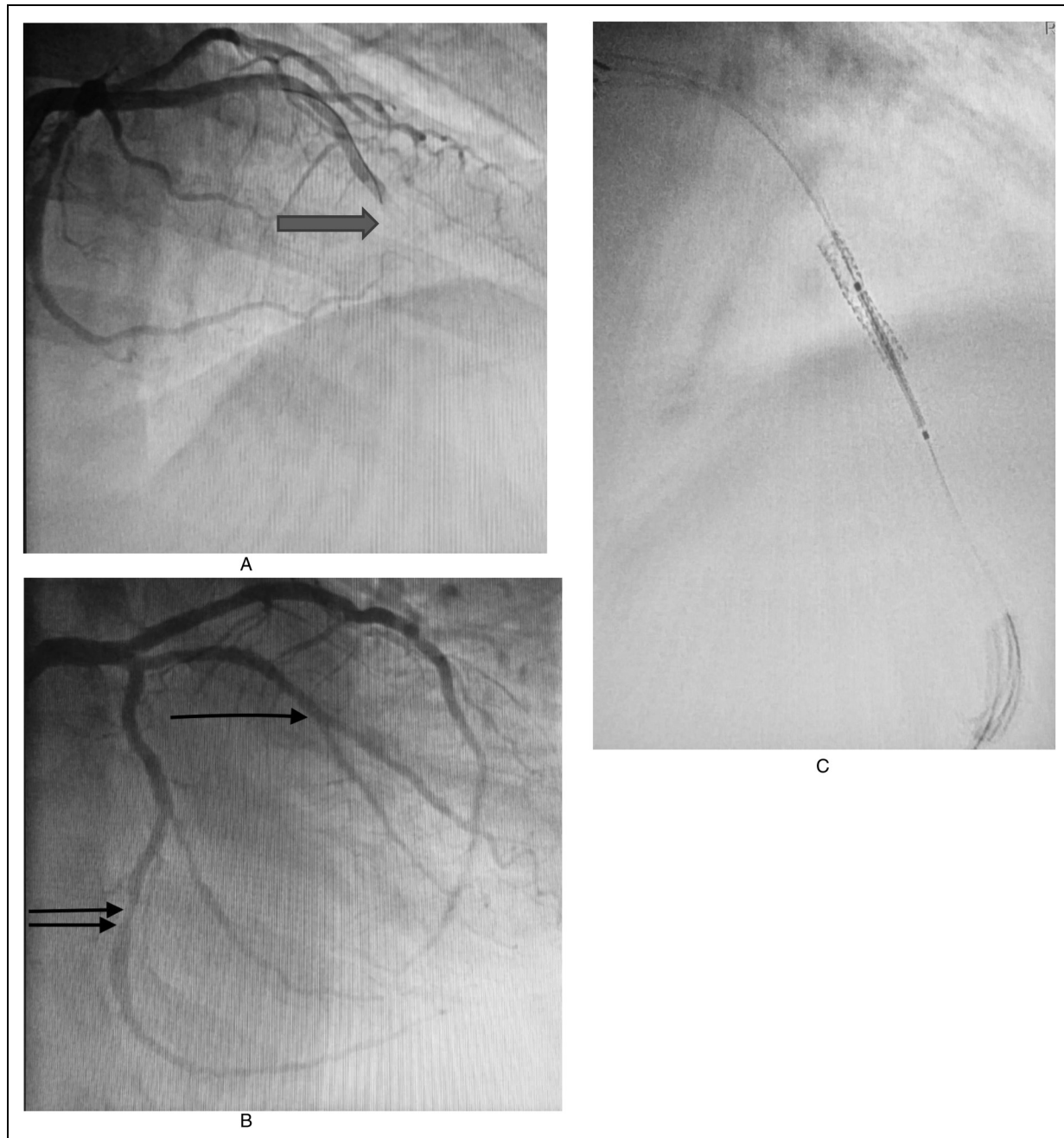


Figure 2. Images of coronary angiogram showing stent thrombosis and revascularisation. (A) Coronary angiogram showing lack of flow beyond the stent in the LAD. (B) New stent being deployed, overlapping with the distal portion of the pre-existing stent. (C) Restoration of flow post-PCI (single arrow), with some stenosis of the LCX (double arrow).
Abbreviations: LAD, left anterior descending; PCI, percutaneous coronary interventions; LCX, left circumflex.

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ORCID iD

Kofi Tekyi Asamoah  <https://orcid.org/0000-0002-8218-854X>

References

1. Gue YX, Kanji R, Gati S, Gorog DA. MI with non-obstructive coronary artery presenting with STEMI: a review of incidence, aetiology, assessment and treatment. *Eur Cardiol Rev.* 2020;15(e20):1-16.
2. Byrne RA, Joner M, Kastrati A. Stent thrombosis and restenosis: what have we learned and where are we going? The Andreas Grüntzig lecture ESC 2014. *Eur Heart J.* 2015;36(47):3320-31.
3. Ullrich H, Münzel T, Gori T. Coronary stent thrombosis—predictors and prevention. *Dtsch Arztebl Int.* 2020;117(18):320-6.
4. Giroldi E, Veldhuijzen W, Geelen K, Muris J, Bareman F, Bueving H, et al. Developing skilled doctor–patient communication in the workplace: a qualitative study of the experiences of trainees and clinical supervisors. *Adv Heal Sci Educ.* 2017;22(5):1263-78.
5. Chamsi-Pasha H, Albar MA. Doctor-patient relationship: Islamic perspective. *Saudi Med J.* 2016;37(2):121-6.
6. Paternotte E, Scheele F, Seeleman CM, Bank L, Scherpbier AJJA, van Dulmen S. Intercultural doctor-patient communication in daily outpatient care: relevant communication skills. *Perspect Med Educ.* 2016;5(5):268-75.
7. McCabe R, Healey PGT. Miscommunication in doctor–patient communication. *Top Cogn Sci.* 2018;10(2):409-24.
8. Greco A, Brugnera A, Adorni R, D'addario M, Fattirolli F, Franzelli C, et al. Protein intake and physical activity in newly diagnosed patients with acute coronary syndrome: a 5-year longitudinal study. *Nutrients.* 2021;13(2):1-17.
9. Richard C, Glaser E, Lussier MT. Communication and patient participation influencing patient recall of treatment discussions. *Heal Expect.* 2017;20(4):760-70.
10. Blumenthal JA, Sherwood A, Smith PJ, Watkins L, Mabe S, Kraus WE, et al. Enhancing cardiac rehabilitation with stress management training: a randomized, clinical efficacy trial. *Circulation.* 2016;133(14):1341-50.

Author Biography

Kofi Tekyi Asamoah, BSc, MBChB, is a final year resident in Internal Medicine with an interest in Cardiology. His research interests include patient empowerment through the doctor-patient relationship to maximise preventive health behaviours and improve patients' overall medical experience.