

Moving beyond “usual care” for heart attack

STORY FROM THE FRONT LINES

A man in his 80s was transferred from an outside hospital for consideration of coronary artery bypass grafting (CABG) after presenting earlier that day with an ST-elevation myocardial infarction (STEMI). He had severe three vessel coronary artery disease on coronary angiogram and was transferred to a higher level of care because of his complex anatomy. On arrival, it became apparent that the patient did not have the capacity to understand his complicated situation. He could not recall why he was in the hospital or even if he had chest pain that morning. He remembered the angiogram only when prompted. His medical durable power of attorney (MDPOA) reported that the patient had advanced dementia and had recently moved in with him due to a recent decline in memory and function. Based on the Advanced Dementia Prognostic Tool (ADEPT), this patient had a 70-80% probability of death within 12 months. [1]

After a relatively short discussion, it was decided to treat the patient medically due to his advanced dementia and poor prognosis. Any invasive intervention (CABG or percutaneous intervention (PCI)) would likely not prolong his life and potentially cause more harm. The MDPOA agreed that the patient would not want the surgery or any other treatment that would decrease his quality of life in the time he had remaining and had already initiated conversations with his primary physician about perhaps enrolling in hospice. We treated him with dual antiplatelet therapy (DAPT) and he was chest pain-free with minimal antianginal medications. The patient was discharged home with hospice.

TEACHABLE MOMENT

Unfortunately, this is not an uncommon situation. We sometimes recommend treatment based on guidelines or “usual care” without considering the entire patient. As part of the American Board of Internal Medicine Foundation’s Choosing Wisely Initiative, the Society of Post-Acute and Long-Term Care Medicine submitted the following recommendation: “Don’t recommend aggressive or hospital-level care for a frail elder without a clear understanding of the individual’s goals of care and the possible benefits and burdens.” [2] For our patient, the burdens were likely to outweigh any benefits.

In acute ST-elevation myocardial infarction (STEMI), CABG is indicated after unsuccessful or complicated PCI, after mechanical complications (i.e. left ventricular free wall rupture), or as the primary reperfusion strategy in patients who are no longer showing signs of acute ischemia and have coronary anatomy that suggests a benefit from CABG as opposed to PCI. There is limited data on treatment of elderly patients after STEMI. We do know that octogenarians have a higher in-hospital and 30-day mortality rate after STEMI compared to those <80 years old. These patients also do better after PCI compared to medical management. [3] But what about if the patient has left main or multi-vessel disease? The standard teaching is that these patients should be referred for CABG. However, elderly patients are more likely to have postoperative complications and fatal major adverse cardiac and

cerebrovascular events after CABG compared to younger patients. [4] In the large ASCERT trial, investigators looked at patients ≥ 65 years with multi-vessel disease. Compared to PCI, a mortality benefit at 4 years was seen in the CABG group but not at 1 year. [5] A patient whose expected survival is less than a year would be unlikely to benefit from CABG. The patient would be subject to a sternotomy which is associated with pain, activity precautions that a patient with advanced dementia would have a hard time following, and infection risk. PCI is sometimes an option for patients with left main or multi-vessel disease if there are targets for revascularization and the complexity is relatively low. Even so, the bleeding risk for elderly patients is much higher and subjecting them to the mandatory DAPT after stent placement could increase their morbidity and mortality. Unfortunately for our patient, his anatomy was quite complex and he was not considered a candidate for PCI. This family already had started to define the patient's goals of care indicated by the prior discussions of hospice. Possibly, a discussion held with the MDPOA at the first hospital could have saved this frail patient distress, thousands of dollars in hospital and transportation costs.

Bibliography

1. Mitchell SL, Miller SC, Teno JM, Davis RB, Shaffer ML. The Advanced Dementia Prognostic Tool (ADEPT): A Risk Score to Estimate Survival in Nursing Home Residents with Advanced Dementia. *Journal of pain and symptom management*. 2010;40(5):639-651. doi:10.1016/j.jpainsymman.2010.02.014.
2. Choosingwisely.org. (2017). *Hospital-level care for the elderly | Choosing Wisely*. [online] Available at: <http://www.choosingwisely.org/clinician-lists/amda-aggressive-or-hospital-level-care-for-frail-elder/> [Accessed 24 Jun. 2017].
3. Sim WL, Mutha V, Ul-Haq MA, Sasongko V, Van-Gaal W. Clinical characteristics and outcomes of octogenarians presenting with ST elevation myocardial infarction in the Australian population. *World Journal of Cardiology*. 2017;9(5):437-441. doi:10.4330/wjc.v9.i5.437.
4. Piątek, J., Kędziora, A., Kielbasa, G., Olszewska, M., Sobczyk, D., Song, B., Konstany-Kalandyk, J., Darocha, T., Wierzbicki, K., Milaniak, I., Wróbel, K. and Kapelak, B. (2014). How to predict the risk of postoperative complications after coronary artery bypass grafting in patients under 50 and over 80 years old? A retrospective cross-sectional study. *Kardiologia Polska*.
5. Chang, M., Lee, C., Ahn, J., Cavalcante, R., Sotomi, Y., Onuma, Y., Park, D., Kang, S., Lee, S., Kim, Y., Park, S., Serruys, P. and Park, S. (2017). Outcomes of Coronary Artery Bypass Graft Surgery Versus Drug-Eluting Stents in Older Adults. *Journal of the American Geriatrics Society*, 65(3), pp.625-630.