Racial Disparity in Treating Coronary Disease Not All Black and White

By Chuck Dinerstein — July 24, 2017

Medical care for our country's veterans should be nothing short of the best. However, Veterans Hospitals are known for falling short of this goal.

A multi-institutional research group headed out of the Veterans Affairs Medical Center in Philadelphia, Pennsylvania wanted to look specifically at the role that race may play in the care that our Veterans receive. Their article, Comparative Outcomes after Percutaneous Coronary Intervention among Black and White Patients treated at US Veterans Affairs Hospitals [1], is published in this week's JAMA Cardiology.

The study searched for differences in the care and outcomes of treating coronary artery disease to our veterans based upon race. More specifically, they looked at outcomes after the cardiac procedure Percutaneous Coronary Intervention (PCI). PCI is also known as an angioplasty where a stent is placed to open blood vessels in the heart.

The first conclusion of the study was that, in an unadjusted analysis, black patients had a higher rate of mortality than white patients after PCI. But race did not seem to be a factor when the researchers considered the 1-year mortality.

And with a bit of careful reading, we may begin to see the why.

- Black patients were younger, with a higher incidence of heart failure, chronic kidney disease, diabetes, post-traumatic stress disorder, tobacco use and other vascular manifestations of atherosclerosis.
- Black patients were more likely to be seen for an acute coronary invent (ACl) and undergo urgent or emergent PCI
• Black patients came from lower socioeconomic status and urban areas based on census data of their home zip code

In other words, not only were black veterans sicker (more comorbidities) when they came in to seek medical care but, their health situation was also (very frequently) more urgent or emergent. Black patients had a greater 1-year mortality, predominantly for patients undergoing PCI for chronic conditions such as angina, not for ACI where you would expect the sudden injury to the heart to lead to more deaths.

The black patients required more transfusions and had a higher incidence of acute kidney injury. Acute kidney injury in this setting is due to the dye used in PCI which allows the cardiologist to see the blood vessels they are treating and in large volumes is toxic to the kidneys. But chronic kidney disease makes an individual more susceptible to these effect at lower volumes, so the incidence of acute kidney injury is more related to having chronic kidney disease than race. And chronic kidney disease results in an "anemia of chronic disease," our bodies manufacturers fewer blood cells and therefore our overall blood level is lower. This baseline anemia may be the cause for the transfusion rather than blood lost during the PCI - so again, the higher incidence of transfusion among black patients may well reflect their increased incidence of chronic kidney disease rather than greater blood loss from their care at the VA.

The authors also characterized the treatments provided at the time of PCI based upon race and found

• Black patients were more likely to have all their coronary disease treated, using bare metal stents [1] and after their procedures prescribed high-intensity statin therapy and use of ACE and ARB [2] medications. They were less likely to have advanced intracoronary imaging or physiologic testing. [3]

So here is the bottom line, within the VA system there is no evidence of a racial disparity of care. Black patients had a “greater burden of medical comorbidities and manifested higher-acuity [more emergency and urgent treatment] presentations." Differences in outcome were not “related to wealth or where they were treated.”

Based on their findings, the authors suspect that the disparity in outcome most likely reflects "prevention and treatment of chronic comorbidities" and the study strongly suggests that to reduce the difference in outcome, at least for coronary interventions, we need better primary care, not cardiology care.

[1] There is no randomized controlled study showing that bare metal stents (BMS)are inferior to eluting drug stents (DES) although some observational studies do show DES to be better. BMS is less expensive than DES

[2] ARB is an angiotensin II blocker, ACE is an angiotensin-converting enzyme inhibitor. While working through different mechanism, both drugs treat hypertension and are standard therapy for
patients undergoing PCI

[3] These technologies help identify the coronary disease that may be important to treat, but given that black veterans were more likely to have all of their coronary disease treated anyway may not represent a real difference in treatment.


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