

Coronary Artery Bypass Grafting Surgery versus Percutaneous Coronary Intervention: What is the Clinical Decision Framework Amid COVID 19 Era

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Abstract

It is known that LIMA-to-LAD is the major determinant of the patient's prognosis and long term survival for a large percentage of the population with coronary artery disease. Off pump, minimally invasive LIMA-to-LAD provides excellent long-term results). As Awad et al state, this pandemic has disrupted and challenged delivery of health care services worldwide). LIMA-to-LAD can be performed with minimal resources in an isolated area from COVID-19 facilities within the hospital. Hybrid treatment of coronary heart disease is another option for patients under these circumstances. Surgeons must take the lead and play an active role in the decision process. As the authors conclude, given fluidity of the current situation, there is need for new processes and clinical decision – making that will allow patients to receive appropriate treatment,

The article by Awad et al in the Journal (1) poses a challenge, since it is known that LIMA-to-LAD is the major determinant of the patient's prognosis and long term survival for a large percentage of the population with coronary artery disease. Despite this, over 20% of several million patients worldwide have had stents placed into the left anterior descending coronary artery. Off pump, minimally invasive LIMA-to-LAD provides excellent long-term results (2- 3). There are reports of this operation performed on an outpatient basis and with minimal hospitalization (4). As Awad et al state, this pandemic has disrupted and challenged delivery of health care services worldwide, with government-imposed blockade measures, compounded by need for ICU beds to provide respiratory assistance and mechanical ventilation. This has necessitated redistribution and reorganization of resources within hospitals (1). LIMA-to-LAD can be performed with minimal resources in an isolated area from COVID-19 facilities within the hospital. As Awad et al pointed out (1), immune compromised patients can have SARS-CoV-2 virus for long periods of time and, since cardiac surgery with cardiopulmonary bypass induces post-operative immunosuppression and impaired lung function, there is an argument for PCI. Alternatively, if possible, surgery may be delayed for at least six weeks.

There are growing concerns about possible increase in platelet aggregation associated with COVID-19, which can lead to stent thrombosis. Therefore, patients undergoing coronary artery stenting may be at increased risk since the ideal antiplatelet therapy for these patients remains to be determined. Therefore, in these circumstances, it is important to identify patients who can readily benefit from LIMA-to-LAD procedure.

Hybrid treatment of coronary heart disease is another option for patients under these circumstances (5). Surgeons must take the lead and play an active role in the decision process. It is clear that, with this option, hospitalization can be greatly reduced, as all procedures are performed in one location, with little hospitalization. The circumstances of the pandemic will undoubtedly force us to accelerate this treatment, and surgeons will have to learn how to perform both the surgical and the interventional procedures. This

will require a paradigm change, and physicians will have to be retrained to perform both interventions, with technology that already exists. As the authors conclude, given fluidity of the current situation, there is need for new processes and clinical decision – making that will allow patients to receive appropriate treatment, i.e., CABG or PCI revascularization strategy amid the COVID-19 pandemic.

References

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