

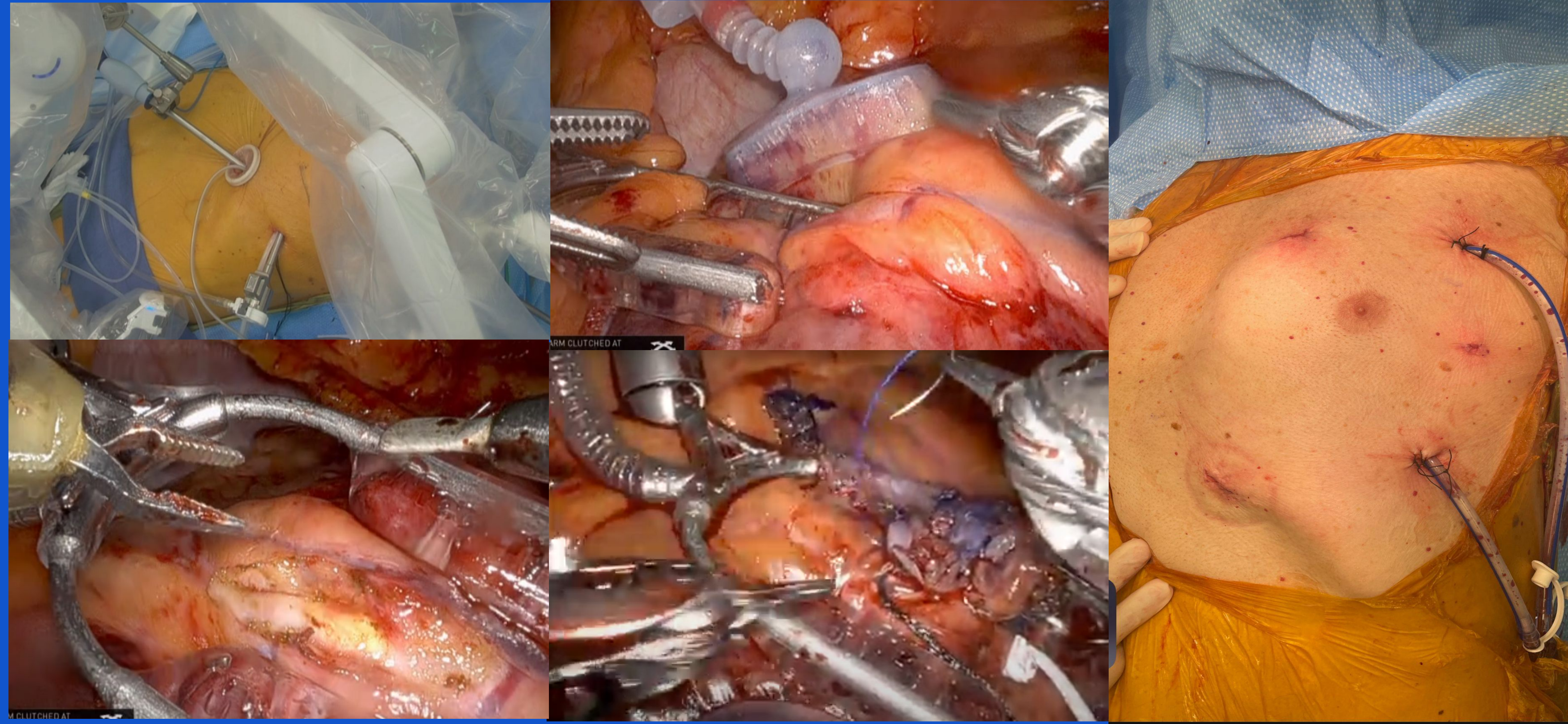
Robotic Totally Endoscopic Coronary Bypass solutions in a future without Endowrist stabilizer - Coronary Artery Stabilization

Ghulam Murtaza

SSM Health, Madison WI USA

BACKGROUND: This video presentation illustrates stabilization and exposure of left anterior descending artery utilizing Minimally invasive surgery (MIS) coronary stabilizer with the da Vinci Xi surgical robot in a Totally Endoscopic Coronary Artery Bypass (TECAB) procedure.

METHODS: The surgery involved the use of the da Vinci Xi Surgical System, equipped with enhanced dexterity and visualization capabilities, but lacking a robotic cardiac stabilizer. We utilized a MIS coronary stabilizer via the subcostal port and performed an in-situ bilateral internal mammary artery bypass with robot-sewn anastomosis to obtuse marginal artery and left anterior descending artery. The subcostal port is created in the midclavicular line, as it was for the robotic endowrist stabilizer. This video presentation highlights the stabilization and exposure of a deeply embedded left anterior descending artery beneath the epicardial fat. Once the location has been confirmed, a robotic monopolar spatula is used to divide the epicardium. The overlying fat is then divided using a combination of cautery and blunt dissection using a rolled gauze. It is critical, like in open cases, to open an extended portion of the epicardium in deeper targets to avoid anastomotic kinks. An anastomosis is then performed using standard techniques.



RESULTS: The successful execution of robotic TECAB using MIS coronary stabilizer with da Vinci Xi Surgical robot underscores the evolving landscape of cardiac surgery. This technique enables the surgeon to harness the enhanced capabilities of the robotic platform to perform coronary artery bypass totally endoscopically.

CONCLUSIONS: Despite the absence of a robotic surgical coronary Endowrist stabilizer, MIS tools can be utilized to perform a TECAB.