

CHIP PCI Supported by ECMO

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In 2016, the concept of CHIP (Complex Higher-risk and Indicated Patient) was proposed at the first time in the US PCI field. CHIP mainly consists of three factors: Revascularization indication; Patients are often associated with a variety of diseases or difficulties to tolerate cardiac surgery, such as acute coronary syndrome, advanced age, diabetes, chronic obstructive pulmonary disease, renal insufficiency, cardiac insufficiency, high bleeding risk and previous history of CABG; Patients' coronary artery lesions are complicated, such as CTO, bifurcation lesions, left main lesions, calcified lesions, and multivessel disease.

Because of the complexities of CHIP and the combination of multiple diseases, the risk of surgery is high, interventional cardiologist may face more challenges during the procedure. CHIPs are both high-risk and the most beneficial to revascularization. Optimal treatment for CHIP is necessary to improve prognosis.

There is no accurate clinical data of CHIPs. Due to the complex lesions and high risk, they are often excluded by most clinical trials. Interventional therapy can improve CHIPs' myocardial ischemia, and may benefit if safe and effective revascularization (complete or incomplete) is performed for such patients. Interventional procedures and possible complications may affect the patients' cardiac function and hemodynamics. Revascularization for CHIP is complex and high-risk, requiring experienced interventional operators.

Up to now, we had already finished 20 cases of CHIPs' PCI with ECMO support. We used the ProGlide Vascular Stapler to establish a vascular access, which could significantly reduce the time for access. According to the patient's condition, weaning ECMO as soon as possible for reducing complications.

Interventional cardiologists face more challenges during the PCI procedure for CHIP cause of the characteristics of CHIP. Elective high-risk PCI supported by ECMO is a viable alternative for patients who are at very high risk for CABG. Looking forward to more clinical evidence with ECMO support in CHIPs' PCI in the future.