

Supplemental Table. Reported cases of LVAD outflow graft obstruction

| First author (year) | Device type | Time of presentation | Clinical Presentation | Hemolysis | Diagnosis | Mechanism of obstruction | Treatment |
|--------------------------------|-------------|----------------------|--|--------------|--------------------------------------|--|----------------------------------|
| Hubbert (2017) ¹¹ | HM II | 2 years | Low flows | No | CTA | Intraluminal thrombus | Percutaneous stent |
| Abraham (2015) ¹⁷ | HM II | 2.5 years | Low flows & heart failure | No | CTA | Thrombus causing angulation and narrowing of outflow graft | Percutaneous stent |
| Pham (2015) ¹⁸ | HM II | 1 year | Low flows & heart failure | No | CTA & ventriculogram | Unclear (kink or obstruction) | Percutaneous stent |
| Cheng (2014) ²⁰ | HM II | 1.5 years | Low flow & dizziness | Not reported | CTA | Stenosis at the aorta-graft anastomosis | Balloon angioplasty |
| Ganapathy (2013) ²¹ | HM II | 6 months | Chest pain and heart failure | Not reported | CTA | Compression by pseudoaneurysm | Balloon angioplasty |
| Gruger (2018) ¹² | HM III | 2 years | Low flows & heart failure | Not reported | CTA | Twisted outflow cannula | Stenting and surgical correction |
| Posada (2017) ¹⁴ | HM III | 6 months | Low flows | Yes | CTA & direct inspection [†] | Thrombus between outflow graft and bend relief | Heart transplant |
| Posada (2017) ¹⁴ | HM III | 1 year | Low flows & heart failure | No | CTA & direct inspection [†] | Thrombus between outflow graft and bend relief | Heart transplant |
| Hanke (2016) ¹⁶ | HVAD | 6 months | Heart failure, high flows and power spikes | Yes | CTA | Outflow graft thrombus | Percutaneous stent |
| Pieri (2017) ¹⁵ | HVAD | 5 years | Heart failure & low flows | No | Invasive angiography ^{††} | Unclear | Percutaneous stent |
| Retzer (2015) ¹⁹ | HVAD | 1 month | Low flows | No | Ventriculogram | Stenosis at the aorta-graft anastomosis | Percutaneous stent |

[†] At time of heart transplantation

^{††} Injection of contrast into proximal part of the outflow graft during invasive angiography

HM, HeartMate; CTA, Computed Tomography Angiography; HVAD, HeartWare