

# SCHWERPUNKT: Herzbeteiligung bei COVID-19-Erkrankungen

- Herz- und Lungentransplantationen in Zeiten von COVID-19 (S. 8–13)

F. Hedwig, F. Schönrrath, F. Hennig, C. Knosalla, V. Falk

## Literatur:

1. Huang C et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020; 395: 497–506
  2. Rivinius R et al. COVID-19 among heart transplant recipients in Germany: a multi-center survey. *Clin Res Cardiol* 2020; 109: 1531–1539
  3. Aslam S et al. Guidance from the International Society of Heart and Lung Transplantation regarding the SARS CoV-2 pandemic. <https://ishlt.org/covid-19-information>; August 19,2020
  4. Holm AM et al. Ethical considerations regarding heart and lung transplantation and mechanical circulatory support during the COVID-19 pandemic: an ISHLT COVID-19 Task Force statement. *JHLT* 2020; 7: 619–626
  5. DeFilippis EM et al. Challenges in Heart Transplantation in the Era of COVID-19. *Circulation* 2020; 141: 2048–2051
  6. Statistiken zur Organspende im Überblick; <http://dso.de/organspende/statistiken-berichte/organtransplantation> 02.01.2021
  7. Number of Transplants in the US to Date; <http://unos/covid> 01.01.2021
  8. Transplantationsgesetz § 12 Absatz 3 TPG; [https://www.gesetze-im-internet.de/tpg/\\_12.html](https://www.gesetze-im-internet.de/tpg/_12.html)
  9. Ceulemans LJ et al. Successful double-lung transplantation from a donor previously infected with SARS-CoV-2. *Lancet Respir Med* 2020; S2213-2600(20)30524-5
  10. Lang et al. Lung transplantation for COVID-19-associated acute respiratory distress syndrome in a PCR-positive patient. *Lancet Respir Med* 2020; 8: 1057–1060
  11. Saez-Giménez B et al. COVID-19 in lung transplant recipients: A multicenter study. *Am J Transplant.* 2020; 00: 1–9
  12. Peter Horby et al. Dexamethasone in Hospitalized Patients with Covid-19 – Preliminary Report. *N Engl J Med* 2020: NEJMoa2021436
  13. Beigel JH et al. Remdesivir for the Treatment of Covid-19 - Final Report. *NEJM* 2020;383: 1813–1826
  14. Polack FP et al. Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine. *NEJM* 2020; 383: 2603–2615
  15. Aydillo T et al. Shedding of Viable SARS-CoV-2 after Immunosuppressive Therapy for Cancer. *NEJM* 2020; 383: 26
  16. Craig-Schapiro R et al. COVID-19 outcomes in patients waitlisted for kidney transplantation and kidney transplant recipients. *Am J Transplant.* 2020; 00: 1–10.
  17. Jimenez JD et al. Heart transplant during the COVID-19 pandemic: follow-up organization and characteristics of infected patients. *Rev Esp Cardiol.* 2020; 73: 1065–1080
  18. Karagiannidis C et al. COVID-19: Evidenzbasierte Therapieoptionen *Dtsch Arztebl* 2020; 117: 2340–2345
-

- **Mechanische Kreislaufunterstützung für die Therapie der fulminanten Myokarditis nach COVID-19-Infektion (S. 14–20)**

G. Nersesian, C. Starck, V. Falk, F. Schoenrath, E. Potapov

#### Literatur:

1. Caforio AL et al. Current state of knowledge on aetiology, diagnosis, management, and therapy of myocarditis: a position statement of the European Society of Cardiology Working Group on Myocardial and Pericardial Diseases. *Eur Heart J* 2013; 34: 2636–2648, 48a–48d
2. Pollack A et al. Viral myocarditis--diagnosis, treatment options, and current controversies. *Nat Rev Cardiol* 2015; 12: 670–680
3. Hochhaus H. Akute Myokarditis. In: Liebermeister G, Hrsg. *Die Krankheiten des Herzens und der Gefäße*. Berlin, Heidelberg: Springer; 1922
4. Sharma AN et al. Fulminant Myocarditis: Epidemiology, Pathogenesis, Diagnosis, and Management. *Am J Cardiol* 2019; 124: 1954–1960
5. Ammirati E et al. Management of Acute Myocarditis and Chronic Inflammatory Cardiomyopathy: An Expert Consensus Document. *Circ Heart Fail* 2020; 13: e007405
6. Van Linthout S, Tschope C. Viral myocarditis: a prime example for endomyocardial biopsy-guided diagnosis and therapy. *Curr Opin Cardiol* 2018; 33: 325–333
7. Barbaro G. HIV-associated cardiomyopathy etiopathogenesis and clinical aspects. *Herz* 2005; 30: 486–492
8. Tschope C et al. Mechanical Unloading by Fulminant Myocarditis: LV-IMPELLA, ECMELLA, BI-PELLA, and PROPELLA Concepts. *J Cardiovasc Transl Res* 2019; 12: 116–123
9. Nersesian G et al. Temporary mechanical circulatory support for refractory heart failure: the German Heart Center Berlin experience. *Ann Cardiothorac Surg* 2019; 8: 76–83
10. Ponikowski P et al. 2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure: The Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC). Developed with the special contribution of the Heart Failure Association (HFA) of the ESC. *Eur J Heart Fail* 2016; 18: 891–975
11. Spillmann F et al. Mode-of-action of the PROPELLA concept in fulminant myocarditis. *Eur Heart J* 2019; 40: 2164–2169
12. den Uil CA et al. Short-term mechanical circulatory support as a bridge to durable left ventricular assist device implantation in refractory cardiogenic shock: a systematic review and meta-analysis. *Eur J Cardiothorac Surg* 2017; 52: 14–25
13. Prabhu SD, Frangogiannis NG. The Biological Basis for Cardiac Repair After Myocardial Infarction: From Inflammation to Fibrosis. *Circ Res* 2016; 119: 91–112
14. Levin HR et al. Reversal of chronic ventricular dilation in patients with end-stage cardiomyopathy by prolonged mechanical unloading. *Circulation* 1995; 91: 2717–2720
15. Neubauer S. The failing heart – an engine out of fuel. *N Engl J Med* 2007; 356: 1140–1151
16. Nersesian G et al. Prediction of survival of patients in cardiogenic shock treated by surgically implanted Impella 5+ short-term left ventricular assist device. *Interact Cardiovasc Thorac Surg* 2020; 31: 475–482
17. Schrage B et al. Left Ventricular Unloading Is Associated With Lower Mortality in Patients With Cardiogenic Shock Treated With Venoarterial Extracorporeal Membrane Oxygenation: Results From an International, Multicenter Cohort Study. *Circulation* 2020; 142: 2095–106
18. Eulert-Grehn JJ et al. ECMELLA 2.0 – Single arterial access technique for a staged approach in cardiogenic shock. *Ann Thorac Surg* 2020; 111: e135–e137
19. Costa I et al. The Heart and COVID-19: What Cardiologists Need to Know. *Arq Bras Cardiol* 2020; 114: 805–816

20. Akhmerov A, Marban E. COVID-19 and the Heart. *Circ Res* 2020; 126: 1443–1455
21. Pham DT et al. Establishment and Management of Mechanical Circulatory Support During the COVID-19 Pandemic. *Circulation* 2020; 142: 10–13
22. Chasouraki AM et al. Acute Myocarditis Related to COVID-19: Comparison to SARS and MERS. *SN Compr Clin Med* 2020: 1–7
23. Bemtgen X et al. First Successful Treatment of Coronavirus Disease 2019 Induced Refractory Cardiogenic Plus Vasoplegic Shock by Combination of Percutaneous Ventricular Assist Device and Extracorporeal Membrane Oxygenation: A Case Report. *ASAIO J* 2020; 66: 607–609
24. Ruan Q et al. Clinical predictors of mortality due to COVID-19 based on an analysis of data of 150 patients from Wuhan, China. *Intensive Care Med* 2020; 46: 846–848
25. Herrmann J et al. COVID-19 Induced Acute Respiratory Distress Syndrome-A Multicenter Observational Study. *Front Med (Lausanne)* 2020; 7: 599533