

DAFTAR PUSTAKA

1. Harrison' S, Tm. *Harrisons Cardiovascular* 3rd Edition [Internet]. 2017 [cited 2023 Nov 6]. Available from: Disorder of the heart ,Section IV page 214, Section V page 394
2. Abul K A, Vinay K, Jon C E. *Robbins Basic Pathology* 10th [Internet]. 2017 [cited 2023 Nov 6]. Available from: Heart, Chapter 11 page 399
3. Leonard S L. *Pathophysiology of Heart Disease* Lily 6 Edition [Internet]. 2016 [cited 2023 Nov 6]. Available from: Valvular Heart Disease, Chapter 4 page 112, Chapter 8 - Chapter 10 page 249
4. Sozzi FB, Gherbesi E, Faggiano A, Gnan E, Maruccio A, Schiavone M, et al. *Viral Myocarditis: Classification, Diagnosis, and Clinical Implications*. Vol. 9, *Frontiers in Cardiovascular Medicine*. Frontiers Media S.A.; 2022.
5. Rezkalla SH, Kloner RA. *Viral myocarditis: 1917–2020: From Influenza A to the COVID-19 pandemics*. Vol. 31, *Trends in Cardiovascular Medicine*. Elsevier Inc.; 2021. p. 163–9.
6. Treibel TA, White SK, Moon JC. *Myocardial Tissue Characterization: Histological and Pathophysiological Correlation*. Vol. 7, *Current Cardiovascular Imaging Reports*. Current Medicine Group LLC 1; 2014. p. 1–9.
7. Zuppinger C, Czarzasta K, Gyöngyösi M, Lu M, Zhu L, Wang Y, et al. *Detection of myocardial fibrosis: Where we stand*. 2022.
8. Weckbach LT, Curta A, Bieber S, Kraechan A, Brado J, Hellmuth JC, et al. *Myocardial Inflammation and Dysfunction in COVID-19-Associated Myocardial Injury*. *Circ Cardiovasc Imaging*. 2021 Jan 1;14(1): E012220.
9. Tariq S, Garg A, Gass A, Aronow WS. *Myocarditis due to systemic lupus erythematosus associated with cardiogenic shock*. Vol. 14, *Archives of Medical Science*. Termedia Publishing House Ltd.; 2018. p. 460–2.
10. Wang B, Wang H, Zhang M, Ji R, Wei J, Xin Y, et al. *Radiation-induced myocardial fibrosis: Mechanisms underlying its pathogenesis and therapeutic strategies*. Vol. 24, *Journal of Cellular and Molecular Medicine*. Blackwell Publishing Inc.; 2020. p. 7717–29.
11. Wang Y, Wang Y, Han X, Sun J, Li C, Adhikari BK, et al. *Cardio-Oncology: A Myriad of Relationships Between Cardiovascular Disease and Cancer*. Vol. 9, *Frontiers in Cardiovascular Medicine*. Frontiers Media S.A.; 2022.

12. Parichatikanond W, Luangmonkong T, Mangmool S, Kurose H. Therapeutic targets for the treatment of cardiac fibrosis and cancer: Focusing on $\text{tgf-}\beta$ Signaling. Vol. 7, *Frontiers in Cardiovascular Medicine*. Frontiers Media S.A.; 2020.
13. Sławiński G, Hawryszko M, Lasocka-Koriat Z, Romanowska A, Myszczyński K, Wrona A, et al. Early Effects of Modern Radiotherapy for Lung Cancer on Endothelial Damage and Myocardial Fibrosis: A Prospective Single-Center Study. *Int J Mol Sci* [Internet]. 2024 Jun 18;25(12):6705. Available from: <https://www.mdpi.com/1422-0067/25/12/6705>
14. Yao YS, Li T Di, Zeng ZH. Mechanisms underlying direct actions of hyperlipidemia on myocardium: An updated review. Vol. 19, *Lipids in Health and Disease*. BioMed Central; 2020.
15. Salvador DB, Gamba MR, Gonzalez-Jaramillo N, Gonzalez-Jaramillo V, Raguindin PFN, Minder B, et al. Diabetes and Myocardial Fibrosis: A Systematic Review and Meta-Analysis. *JACC Cardiovasc Imaging*. 2022 May 1;15(5):796–808.
16. Ambale-Venkatesh B, Liu CY, Liu YC, Donekal S, Ohyama Y, Sharma RK, et al. Association of myocardial fibrosis and cardiovascular events: The multi-ethnic study of atherosclerosis. *Eur Heart J Cardiovasc Imaging*. 2019 Feb 1;20(2):168–76.
17. Qiao S, Hong L, Zhu Y, Zha J, Wang A, Qiu J, et al. RIPK1-RIPK3 mediates myocardial fibrosis in type 2 diabetes mellitus by impairing autophagic flux of cardiac fibroblasts. *Cell Death Dis*. 2022 Feb 1;13(2).
18. Vidula MK, Rajewska-Tabor J, Cao JJ, Kang Y, Craft J, Mei W, et al. Myocardial Injury on CMR in Patients With COVID-19 and Suspected Cardiac Involvement. *JACC Cardiovasc Imaging*. 2023 May 1;16(5):609–24.
19. Wang X, Bu X, Wei L, Liu J, Yang D, Mann DL, et al. Global, Regional, and National Burden of Myocarditis From 1990 to 2017: A Systematic Analysis Based on the Global Burden of Disease Study 2017. *Front Cardiovasc Med*. 2021 Jul 2;8.
20. WHO. COVID-19 PREVALENCE [Internet]. 2023 [cited 2023 Nov 6]. Available from: <https://covid19.who.int/>
21. Maharani A, Sujarwoto, Praveen D, Oceandy D, Tampubolon G, Patel A. Cardiovascular disease risk factor prevalence and estimated 10-year

- cardiovascular risk scores in Indonesia: The SMARThealth Extend study. *PLoS One*. 2019 Apr 1;14(4).
22. Setiadi W, Rozi IE, Safari D, Daningrat WOD, Johar E, Yohan B, et al. Prevalence and epidemiological characteristics of COVID-19 after one year of pandemic in Jakarta and neighbouring areas, Indonesia: A single center study. *PLoS One*. 2022 May 1;17(5 May).
 23. Frangiannis NG. Cardiac fibrosis. Vol. 117, *Cardiovascular Research*. Oxford University Press; 2021. p. 1450–88.
 24. L.Hauser S, Josephson SA. *Harrison's Principles of Internal Medicine (19th Ed) (Vols 1+2)*. 2020 [cited 2023 Nov 6]; Available from: Disorders of the Cardiovascular System, Chapter 10 page 1439
 25. Setiati S, Alwi I, Sudoyo AW. *FILSAFAT ILMU PENYAKIT DALAM*. 2014.
 26. Hara H, Takeda N, Komuro I. Pathophysiology and therapeutic potential of cardiac fibrosis. Vol. 37, *Inflammation and Regeneration*. BioMed Central Ltd.; 2017.
 27. Duca F, Kammerlander AA, Zotter-Tufaro C, Aschauer S, Schwaiger ML, Marzluf BA, et al. Interstitial fibrosis, functional status, and outcomes in heart failure with preserved ejection fraction. *Circ Cardiovasc Imaging*. 2016 Dec 1;9(12).
 28. Rohen JW, Yokochi C, Lütjen-Drecoll E. *Anatomy: A Photographic Atlas* [Internet]. 2016 [cited 2023 Nov 6]. Available from: Anatomy Cardiovascular, Chapter 4 page 260
 29. Frank H N. *Netters Human Atlas 7th Edition* [Internet]. 2019 [cited 2023 Nov 6]. Available from: Heart, Chapter 4 Page 215-233
 30. Anthony L M. *Junquera Basic Histology Text and Atlas 13th Ed*. 2015 [cited 2023 Nov 6]; Available from: Circulatory System, Chapter 11 page 212-232
 31. Kristiani E, Suryadinata N, Marisca S, Kedokteran F, Pelita U, Edisi H. *BUKU PENUNTUN PRAKTIKUM HISTOLOGI KHUSUS PENYUSUN*. 2018.
 32. Kristiani E, Suryadinata N, Marisca S. *Buku Penuntun Praktikum Histologi (UMUM)*. 2020;
 33. Boron WF, Boulpaep EL. *Medical Physiology*. 2017.

34. Costanzo LS. *Physiology*. Vol. 6th Edition. 2018. 122–190 p.
35. Mustafa Alhussein M, Rabbani M, Sarak B, Dykstra S, Labib D, Flewitt J, et al. Natural History of Myocardial Injury After COVID-19 Vaccine–Associated Myocarditis. *Canadian Journal of Cardiology*. 2022 Nov 1;38(11):1676–83.
36. Richard S. Snell. *SNELL CLINICAL Anatomy*. Vol. IX. 2012.
37. Talle MA, Ngarande E, Doubell AF, Herbst PG. Prevalence of Myocardial Injury and Myocardial Infarction in Patients with a Hypertensive Emergency: A Systematic Review. Vol. 13, *Diagnostics*. MDPI; 2023.
38. Kementerian Kesehatan Republik Indonesia, Bdan Penelitian dan Pengembangan Kesehatan. *Laporan Riskesdas 2018 Nasional*. 2019;
39. Vasques-Nóvoa F, Angélico-Gonçalves A, Alvarenga JMG, Nobrega J, Cerqueira RJ, Mancio J, et al. Myocardial oedema: pathophysiological basis and implications for the failing heart. Vol. 9, *ESC Heart Failure*. John Wiley and Sons Inc; 2022. p. 958–76.
40. Abraham B B, Suman S R, Komal M. *Left Ventricular Hypertrophy*. 2023;
41. Rao Z, Wang S, Bunner WP, Chang Y, Shi R. Exercise induced right ventricular fibrosis is associated with myocardial damage and inflammation. *Korean Circ J*. 2018 Nov 1;48(11):1014–24.
42. Zhang CD, Xu SL, Wang XY, Tao LY, Zhao W, Gao W. Prevalence of Myocardial Fibrosis in Intensive Endurance Training Athletes: A Systematic Review and Meta-Analysis. Vol. 7, *Frontiers in Cardiovascular Medicine*. Frontiers Media S.A.; 2020.
43. Maruyama K, Imanaka-Yoshida K. The Pathogenesis of Cardiac Fibrosis: A Review of Recent Progress. Vol. 23, *International Journal of Molecular Sciences*. MDPI; 2022.
44. Constant Dit Beaufils AL, Huttin O, Jobbe-Duval A, Senage T, Filippetti L, Piriou N, et al. Replacement Myocardial Fibrosis in Patients With Mitral Valve Prolapse: Relation to Mitral Regurgitation, Ventricular Remodeling, and Arrhythmia. *Circulation*. 2021 May 4;143(18):1763–74.
45. Tracy E, Rowe G, Leblanc AJ. Cardiac tissue remodeling in healthy aging: the road to pathology. *Am J Physiol Cell Physiol* [Internet]. 2020; 319:166–82. Available from: www.ajpcell.org

46. Ever D G. ABC Interventional Cardiology Second Edition [Internet]. 2011 [cited 2023 Nov 6]. Available from: Pathophysiology and investigation heart diseases, Chapter 2 page 7
47. del Monte-Nieto G, Fischer JW, Gorski DJ, Harvey RP, Kovacic JC. Basic Biology of Extracellular Matrix in the Cardiovascular System, Part 1/4: JACC Focus Seminar. Vol. 75, Journal of the American College of Cardiology. Elsevier USA; 2020. p. 2169–88.
48. Díez J, González A, Kovacic JC. Myocardial Interstitial Fibrosis in Nonischemic Heart Disease, Part 3/4: JACC Focus Seminar. Vol. 75, Journal of the American College of Cardiology. Elsevier USA; 2020. p. 2204–18.
49. Sherwood L. Human Physiology 9th Edition [Internet]. 2013 [cited 2023 Nov 6]. Available from: Physiology Jantung, Chapter 9 page 358
50. Arthur C. Guyton. Guyton and Hall Textbook of Medical Physiology [Internet]. 2011 [cited 2023 Nov 6]. Available from: Jantung, Chapter 3 page 120
51. Liu T, Song D, Dong J, Zhu P, Liu J, Liu W, et al. Current understanding of the pathophysiology of myocardial fibrosis and its quantitative assessment in heart failure. Vol. 8, Frontiers in Physiology. Frontiers Research Foundation; 2017.
52. Yadav NK, Momin, Siddique S. Constrictive Pericarditis Continuing Education Activity. 2023.
53. Levine HD. Myocardial Fibrosis in Constrictive Pericarditis Electrocardiographic and Pathologic Observations [Internet]. 1973. Available from: <http://ahajournals.org>
54. Jose-Luis Z, Jeroen B, Juhani K, Udo S, Patrizio L, Luigi B. The ESC Textbook of Cardiovascular Imaging [Internet]. 2021 [cited 2023 Nov 6]. Available from: Role CMR, Chapter 42 page 601
55. Luetkens JA, Isaak A, Öztürk C, Mesropyan N, Monin M, Schlabe S, et al. Cardiac mri in suspected acute covid-19 myocarditis. Vol. 3, Radiology: Cardiothoracic Imaging. Radiological Society of North America Inc.; 2021.
56. Liu J, Tang X, Lei C. Atlas of Chest Imaging in COVID-Patients [Internet]. 2021 [cited 2023 Nov 6]. Available from: Chest imaging, Chapter 9 page 163

57. Ren Z, Zhang Z, Ling L, Liu X, Wang X. Drugs for treating myocardial fibrosis. *Front Pharmacol.* 2023 Sep 12;14.
58. Singh A, Musa T Al, Treibel TA, Vassiliou VS, Captur G, Chin C, et al. Sex differences in left ventricular remodelling, myocardial fibrosis and mortality after aortic valve replacement. *Heart.* 2019 Dec 1;105(23):1818–24.
59. Ji H, Kwan AC, Chen MT, Ouyang D, Ebinger JE, Bell SP, et al. Sex Differences in Myocardial and Vascular Aging. *Circ Res.* 2022 Feb 18;130(4):566–77.
60. Selthofer-Relatić K, Kibel A, Delić-Brkljačić D, Bošnjak I. Cardiac Obesity and Cardiac Cachexia: Is There a Pathophysiological Link? Vol. 2019, *Journal of Obesity.* Hindawi Limited; 2019.
61. Kong G, Zhang A, Chong B, Lim J, Kannan S, Han Chin Y, et al. Long-Term Prognosis of Patients with Coexisting Obesity and Malnutrition after Acute Myocardial Infarction: A Cohort Study. *Circ Cardiovasc Qual Outcomes.* 2023 Apr 1;16(4):E009340.
62. World Health Organization. Definitions and primary actions COVID-19. 2023.
63. Fairweather DL, Beetler DJ, Di Florio DN, Musigk N, Heidecker B, Cooper LT. COVID-19, Myocarditis and Pericarditis. Vol. 132, *Circulation Research.* Lippincott Williams and Wilkins; 2023. p. 1302–19.
64. Babapoor-Farrokhran S, Gill D, Walker J, Rasekhi RT, Bozorgnia B, Amanullah A. Myocardial injury and COVID-19: Possible mechanisms. *Life Sci.* 2020 Jul 15;253.
65. van Eijk LE, Binkhorst M, Bourgonje AR, Offringa AK, Mulder DJ, Bos EM, et al. COVID-19: immunopathology, pathophysiological mechanisms, and treatment options. Vol. 254, *Journal of Pathology.* John Wiley and Sons Ltd; 2021. p. 307–31.
66. Bohn MK, Hall A, Sepiashvili L, Jung B, Steele S, Adeli K. Pathophysiology of COVID-19: Mechanisms underlying disease severity and progression. Vol. 35, *Physiology.* American Physiological Society; 2020. p. 288–301.
67. Tobler DL, Pruzansky AJ, Naderi S, Ambrosy AP, Slade JJ. Long-Term Cardiovascular Effects of COVID-19: Emerging Data Relevant to the Cardiovascular Clinician. Vol. 24, *Current Atherosclerosis Reports.* Springer; 2022. p. 563–70.

68. World Health Organization. Diagnostic testing for SARS-CoV-2. 2020.
69. AFM Ashik I, Won Jun P, Michael R S. Partially Resolving Myocardial Fibrosis Five Months Following the mRNA COVID-19 Vaccine: An MRI Based Case Report. *International Journal of Clinical Cardiology*. 2022 Apr 27;9(2).
70. Castiello T, Georgiopoulos G, Finocchiaro G, Claudia M, Gianatti A, Delialis D, et al. COVID-19 and myocarditis: a systematic review and overview of current challenges. Vol. 27, *Heart Failure Reviews*. Springer; 2022. p. 251–61.
71. Burhan E, Dwi Susanto A, Isbaniah F, Aman Nasution S, Ginanjar E, Wicaksono Pitoyo C, et al. PEDOMAN TATALAKSANA COVID-19 Edisi 4. 2022.
72. Desai AD, Lavelle M, Boursiquot BC, Wan EY. Long-term complications of COVID-19. Vol. 322, *American Journal of Physiology - Cell Physiology*. American Physiological Society; 2022. p. C1–11.
73. Virani SS, Alonso A, Benjamin EJ, Bittencourt MS, Callaway CW, Carson AP, et al. Heart disease and stroke statistics—2020 update a report from the American Heart Association. *Circulation*. 2020;141(9): E139–596.
74. Mustroph J, Hupf J, Baier MJ, Evert K, Brochhausen C, Broecker K, et al. Cardiac Fibrosis Is a Risk Factor for Severe COVID-19. *Front Immunol*. 2021 Oct 22;12.
75. Hinderer S, Schenke-Layland K. Cardiac fibrosis – A short review of causes and therapeutic strategies. Vol. 146, *Advanced Drug Delivery Reviews*. Elsevier B.V.; 2019. p. 77–82.
76. American Heart Association. 2023 Heart Disease and Stroke Statistics. 2023;
77. Lampropoulos CE, Mavrogeni S, Dervas A, Manios E, Chatzidou S, Kontogiannis C, et al. Myocardial fibrosis after COVID-19 infection and severe sinus arrest episodes in an asymptomatic patient with mild sleep apnea syndrome: A case report and review of the literature. *Respir Med Case Rep*. 2021 Jan 1;32.
78. Kim E B, Susan M, Heddwen LB, Jason Y. Barrett Ganongs Review Medical Physiology 26e. 2019;

79. Mustroph J, Hupf J, Baier MJ, Evert K, Brochhausen C, Broeker K, et al. Cardiac Fibrosis Is a Risk Factor for Severe COVID-19. *Front Immunol*. 2021 Oct 22;12.
80. Bashir U, Sharma R, Campos A. Gadolinium Contrast Agent. 2024;
81. The Royal College of Radiologists. Guidance on Gadolinium Based contrast agent administration to adult patients Contents. 2019; Available from: www.rcr.ac.uk
82. Boehmer TK, Kompaniyets L, Lavery AM, Hsu; Joy, Ko JY, Yusuf ; Hussain, et al. Morbidity and Mortality Weekly Report Association Between COVID-19 and Myocarditis Using Hospital-Based Administrative Data-United States [Internet]. 2021. Available from: <http://offers.premierinc.com/rs/381-NBB-525/>
83. Kawel-Boehm N, Hetzel SJ, Ambale-Venkatesh B, Captur G, Francois CJ, Jerosch-Herold M, et al. Reference ranges (“normal values”) for cardiovascular magnetic resonance (CMR) in adults and children: 2020 update. Vol. 22, *Journal of Cardiovascular Magnetic Resonance*. BioMed Central Ltd; 2020.
84. Vijayaraghavan G, Sivasankaran S. Global Longitudinal Strain. *Journal of The Indian Academy of Echocardiography & Cardiovascular Imaging*. 2020;4(1):22–8.
85. Beenish S Bhutta. *Coronary Artery Disease*. 2022 [cited 2024 Jun 15]; Available from: <https://www.ncbi.nlm.nih.gov/books/NBK355313/>
86. NHLBI. Know the Differences: Cardiovascular Disease, Heart Disease, Coronary Heart Disease [Internet]. 2021 [cited 2024 Jun 15]. Available from: <https://www.nhlbi.nih.gov/resources/know-differences-cardiovascular-disease-heart-disease-coronary-heart-disease>
87. Ciarambino T, Menna G, Sansone G, Giordano M. Cardiomyopathies: An overview. Vol. 22, *International Journal of Molecular Sciences*. MDPI; 2021.
88. Caforio ALP, Pankuweit S, Arbustini E, Basso C, Gimeno-Blanes J, Felix SB, 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 Sep 7;34(33):2636–48.
89. Thygesen K, Alpert JS, White HD. Universal definition of myocardial infarction. Vol. 116, *Circulation*. 2007. p. 2634–53.

90. Vasques-Nóvoa F, Angélico-Gonçalves A, Alvarenga JMG, Nobrega J, Cerqueira RJ, Mancio J, et al. Myocardial oedema: pathophysiological basis and implications for the failing heart. Vol. 9, ESC Heart Failure. John Wiley and Sons Inc; 2022. p. 958–76.
91. Feger J, Sharma R, Sheikh Y. Myocardial Injury. 2020;
92. Park J, Lee JH. Myocardial injury in noncardiac surgery. Vol. 75, Korean Journal of Anesthesiology. Korean Society of Anesthesiologists; 2022. p. 4–11.
93. Silva PAB, Soares SM, Santos JFG, Silva LB. Cut-off point for WHOQOL-bref as a measure of quality of life of older adults. Rev Saude Publica. 2014;48(3):390–7.
94. Dinse GE, Parks CG, Weinberg CR, Co CA, Wilkerson J, Zeldin DC, et al. Increasing Prevalence of Antinuclear Antibodies in the United States. Arthritis and Rheumatology. 2020 Jun 1;72(6):1026–35.
95. Piña-Sánchez P, Chávez-González A, Ruiz-Tachiquín M, Vadillo E, Monroy-García A, Montesinos JJ, et al. Cancer Biology, Epidemiology, and Treatment in the 21st Century: Current Status and Future Challenges From a Biomedical Perspective. Vol. 28, Cancer Control. SAGE Publications Ltd; 2021.
96. Amanda J Berberich, Robert A Hagele. Dyslipidemia. 2021;
97. National Kidney Foundation. Estimated Glomerular Filtration Rate (eGFR). 2022.
98. Katwa LC, Mendoza C, Clements M. CVD and COVID-19: Emerging Roles of Cardiac Fibroblasts and Myofibroblasts. Cells. 2022 Apr 1;11(8).
99. Morley JE, Vellas B. COVID-19 and Older Adult. Vol. 24, Journal of Nutrition, Health and Aging. Serdi-Editions; 2020. p. 364–5.
100. Flanagan EW, Most J, Mey JT, Redman LM. Annual Review of Nutrition Calorie Restriction and Aging in Humans. 2020; Available from: <https://doi.org/10.1146/annurev-nutr-122319->
101. Dalan R, Bornstein SR, El-Armouche A, Rodionov RN, Markov A, Wielockx B, et al. The ACE-2 in COVID-19: Foe or Friend? Hormone and Metabolic Research. 2020 May 1;52(5):257–63.
102. Akiyama S, Hamdeh S, Micic D, Sakuraba A. Prevalence and clinical outcomes of COVID-19 in patients with autoimmune diseases: A

- systematic review and meta-analysis. *Ann Rheum Dis.* 2021 Mar 1;80(3):384–91.
103. Wang Y, Guga S, Wu K, Khaw Z, Tzoumikas K, Tombleson P, et al. COVID-19 and systemic lupus erythematosus genetics: A balance between autoimmune disease risk and protection against infection. *PLoS Genet.* 2022 Nov 3;18(11).
 104. Laino ME, Ammirabile A, Motta F, De Santis M, Savevski V, Francone M, et al. Advanced Imaging Supports the Mechanistic Role of Autoimmunity and Plaque Rupture in COVID-19 Heart Involvement. Vol. 64, *Clinical Reviews in Allergy and Immunology*. Springer; 2023. p. 75–89.
 105. Kocivnik N, Velnar T. A Review Pertaining to SARS-CoV-2 and Autoimmune Diseases: What Is the Connection? Vol. 12, *Life*. MDPI; 2022.
 106. Chambers PW. The CD147 Epitope on SARS CoV2 and the Spike in Cancer, Autoimmunity and Organ Fibrosis Fibrosis [Internet]. Available from: www.medclinres.org
 107. Matsumori A. Myocarditis and autoimmunity. Vol. 21, *Expert Review of Cardiovascular Therapy*. Taylor and Francis Ltd.; 2023. p. 437–51.
 108. ElGohary GM, Hashmi S, Styczynski J, Kharfan-Dabaja MA, Alblooshi RM, de la Cámara R, et al. The Risk and Prognosis of COVID-19 Infection in Cancer Patients: A Systematic Review and Meta-Analysis. *Hematology/Oncology and Stem Cell Therapy*. 2022;15(2):45–53.
 109. Espiritu AI, Reyes NGD, Leochico CFD, Sy MCC, Villanueva EQ, Anlacan VMM, et al. Body mass index and its association with COVID-19 clinical outcomes: Findings from the Philippine CORONA study. *Clin Nutr ESPEN*. 2022 Jun 1;49:402–10.
 110. Mallett S, Allen AJ, Graziadio S, Taylor SA, Sakai NS, Green K, et al. At what times during infection is SARS-CoV-2 detectable and no longer detectable using RT-PCR-based tests? A systematic review of individual participant data. *BMC Med.* 2020 Dec 1;18(1).
 111. Mirijello A, Piscitelli P, de Matthaëis A, Inglese M, D’errico MM, Massa V, et al. Low eGFR is a strong predictor of worse outcome in hospitalized COVID-19 patients. *J Clin Med.* 2021 Nov 1;10(22).
 112. Italia L, Tomasoni D, Bisegna S, Pancaldi E, Stretti L, Adamo M, et al. COVID-19 and Heart Failure: From Epidemiology During the Pandemic to

- Myocardial Injury, Myocarditis, and Heart Failure Sequelae. Vol. 8, *Frontiers in Cardiovascular Medicine*. Frontiers Media S.A.; 2021.
113. Andrade BS, Siqueira S, de Assis Soares WR, de Souza Rangel F, Santos NO, Dos Santos Freitas A, et al. Long-covid and post-covid health complications: An up-to-date review on clinical conditions and their possible molecular mechanisms. Vol. 13, *Viruses*. MDPI AG; 2021.
 114. Sanghvi SK, Schwarzman LS, Nazir NT. diagnostics Cardiac MRI and Myocardial Injury in COVID-19: Diagnosis, Risk Stratification and Prognosis. 2021; Available from: <https://doi.org/10.3390/diagnostics>
 115. Rafiee MJ, Friedrich MG. MRI of cardiac involvement in COVID-19. Vol. 97, *The British journal of radiology*. 2024. p. 1367–77.
 116. Pan C, Zhang Z, Luo L, Wu W, Jia T, Lu L, et al. Cardiac T1 and T2 Mapping Showed Myocardial Involvement in Recovered COVID-19 Patients Initially Considered Devoid of Cardiac Damage. *Journal of Magnetic Resonance Imaging*. 2021 Aug 1;54(2):421–8.
 117. Pannucci P, Jefferson SR, Hampshire J, Cooper SL, Hill SJ, Woolard J. COVID-19-Induced Myocarditis: Pathophysiological Roles of ACE2 and Toll-like Receptors. Vol. 24, *International Journal of Molecular Sciences*. Multidisciplinary Digital Publishing Institute (MDPI); 2023.
 118. Bourgonje AR, Abdulle AE, Timens W, Hillebrands JL, Navis GJ, Gordijn SJ, et al. Angiotensin-converting enzyme 2 (ACE2), SARS-CoV-2 and the pathophysiology of coronavirus disease 2019 (COVID-19). Vol. 251, *Journal of Pathology*. John Wiley and Sons Ltd; 2020. p. 228–48.
 119. South AM, Diz DI, Mark X, Chappell C. COVID-19, ACE2, and the cardiovascular consequences. *PERSPECTIVES Integrative Cardiovascular Physiology and Pathophysiology Am J Physiol Heart Circ Physiol* [Internet]. 2020; 318:1084–90. Available from: www.ajpheart.org
 120. Garvey MI, Wilkinson MAC, Holden E, Shields A, Robertson A, Richter A, et al. Early observations on the impact of a healthcare worker COVID-19 vaccination programme at a major UK tertiary centre. Vol. 83, *Journal of Infection*. W.B. Saunders Ltd; 2021. p. 119–45.
 121. Nikolov A, Popovski N. Extracellular Matrix in Heart Disease: Focus on Circulating Collagen Type I and III Derived Peptides as Biomarkers of Myocardial Fibrosis and Their Potential in the Prognosis of Heart Failure: A Concise Review. Vol. 12, *Metabolites*. MDPI; 2022.

122. Wang Z, Li L, Yang S, Li Z, Zhang P, Shi R, et al. Possible mechanisms of SARS-CoV-2-associated myocardial fibrosis: reflections in the post-pandemic era. Vol. 15, *Frontiers in Microbiology*. Frontiers Media SA; 2024.
123. Kini A, Cao D, Nardin M, Sartori S, Zhang Z, Pivato CA, et al. Types of myocardial injury and mid-term outcomes in patients with COVID-19. *Eur Heart J Qual Care Clin Outcomes*. 2021 Nov 1;7(5):438–46.
124. Quijada P, Trembley MA, Small EM. The Role of the Epicardium during Heart Development and Repair. Vol. 126, *Circulation Research*. Lippincott Williams and Wilkins; 2020. p. 377–94.
125. Imran AA, Park WJ, Sood MR. Partially Resolving Myocardial Fibrosis Following the mRNA COVID-19 Vaccine: An MRI Based Case Report [Internet]. 2022. Available from: <https://www.researchsquare.com/article/rs-1393012/v1>

