

DAFTAR PUSTAKA

- Abraham, W.T., Fonarow C.G., Albert M.N., 2008. Predictors of In-Hospital Mortality in Patients Hospitalized for Heart Failure. Insights From the Organized Program to Initiate Lifesaving Treatment in Hospitalized Patients With Heart Failure (OPTIMIZE-HF). *Journal of the American College of Cardiology*, 52(5), pp.347–356.
- Adams KF Jr., Fonarow GC., Emerman CL., LeJemtel TH., Costanzo MR., Abraham WT. 2005. Characteristics and outcomes of patients hospitalized for heart failure in the United States: rationale, design, and preliminary observations from the first 100,000 cases in the Acute Decompensated Heart Failure National Registry (ADHERE). *Am Heart J*. 149 (2) : 209-16.
- Ahmed A., Allman RM., Fonarow GC., Love TE., Zannad F., Dell’italia LJ. 2008. Incident heart failure hospitalization and subsequent mortality in chronic heart failure: a propensity matched study. *J Card Fail*. 4 (3) : 211-8.
- Aleksova, A., Sinagra, G., Beltrami, A. P., Pierri, A., Ferro, F., Janjusevic, M., & Gagno, G. (2021). Biomarkers in the management of acute heart failure: state of the art and role in COVID-19 era. *ESC Heart Failure*, 8(6), 4465–4483
- Arenja N, Clopton P, Peacock WF, Arenja N, Glatz B, *et al.*, Sensitive cardiac troponin in diagnostic and risk stratification acute heart failure. *J Intern Med* 2012;6:598-607.
- Arrigo, M., Gayat, E., Parenica, J., Ishihara, S., Zhang, Jian C., *et al.*, 2017. Precipitating factors and 90-day outcome of acute heart failure: a report from the intercontinental GREAT registry. *Eur J Heart Fail* 19: 201–208.
- Babuin, L., & Jaffe, A. S. (2005). Troponin: The biomarker of choice for the detection of cardiac injury. *CMAJ. Canadian Medical Association Journal*, 173(10), 1191–1202.
- Baldi, J.C., Wilson, G.A., Wilson, L.C., Wilkins, G.T. and Lamberts, R.R., 2016. The Type 2 Diabetic Heart: Its Role in Exercise Intolerance and the Challenge to Find Effective Exercise Interventions. *Sports Medicine*, 46(11), pp.1605– 1617
- Banerjee, D., Perrett, C. and Banerjee, A. (2019) ‘Troponins, Acute Coronary Syndrome and Renal Disease: From Acute Kidney Injury through End-stage Kidney Disease’, *European Cardiology Review* , 14(3), pp. 187–190. doi: 10.15420/ecr.2019.28.2.
- Benjamin, E.J., Virani S.S., Callaway C.WMJ, Chiuve SE, Cushman M, *et al.*, 2018. *Heart disease and stroke statistics - 2018 update: A report from the American Heart Association*
- Björkavoll-Bergseth, M., Kleiven O., Auestad B., Eftestøl T., Oskal K., *et al.* (2020) ‘Duration of Elevated Heart Rate Is an Important Predictor of Exercise-Induced Troponin Elevation’, *Journal of the American Heart Association*, 9(4).

- Bozkurt, B., 2018. High-sensitivity cardiac troponin: From patient phenotypes to clinical events in patients with heart failure with preserved ejection fraction. *J Am Heart Assoc* 7: 1–4.
- Broersen, L. H. A., Stengl H., Nolte C.H. Westermann Di., Endres, M., *et al.* (2020) ‘Association between High-Sensitivity Cardiac Troponin and Risk of Stroke in 96 702 Individuals: A Meta-Analysis’, *Stroke*, pp. 1085–1093.
- Brunner-La Rocca, H.-P. and Sanders-van Wijk, S., 2019. Natriuretic Peptides in Chronic Heart Failure. *Cardiac Failure Review*, 5(1), pp.44–49.
- Caraballo, C., Desai N.R. Mulder H.Brooke A., F Perry Wilson *et al.*, 2019. Clinical Implications of the New York Heart Association Classification. *Journal of the American Heart Association*, 8(23).
- Chauin, A. (2021) ‘The main causes and mechanisms of increase in cardiac troponin concentrations other than acute myocardial infarction (Part 1): Physical exertion, inflammatory heart disease, pulmonary embolism, renal failure, sepsis’, *Vascular Health and Risk Management*, 17, pp. 601–617.
- Cheema, B., Ambrosy, A.P., Kaplan, R.M., Senni, M., *et al.*, 2018. Lessons learned in acute heart failure. *Eur J Heart Fail* 20: 630–641. doi:10.1002/ejhf.1042
- Chow SL, Maisel AS, Anand, Biykem B, Rudolf A de Bo *et al.* Role of biomarkers for the prevention assessment and management of heart failure: a scientific statement from the American Heart Association. *Circulation* 2017;22: e 1054-1091.
- Chuang, A., Nguyen, M. T., Kung, W. M., Lehman, S., & Chew, D. P. (2020). High-sensitivity troponin in chronic kidney disease: Considerations in myocardial infarction and beyond. *Reviews in Cardiovascular Medicine*, 21(2), 191–203
- Collet, J.-P., Thiele, H., Barbato, E., Barthélémy, O., Bauersachs, J., Bhatt, D. L., Dendale, P., Dorobantu, M., Edvardsen, T. & Folliguet, T. 2021. 2020 ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: the Task Force for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC). *European heart journal*, 42, 1289-1367.
- Cotter G., Moshkovitz Y., Milovanov O., Salah A., Blatt A., Krakover R. 2002. Acute heart failure: a novel approach to its pathogenesis and treatment. *Eur J Heart Fail.* 4 (3) : 227 – 34
- Cuadrado-godia, E., Ois, A. and Roquer, J. (2010) ‘Heart Failure in Acute Ischemic Stroke’, pp. 202–213.
- Dickstein, K., Solal C.A., Filippatos G Hernandez, Adrian F.A, Paul W.*et al.*, 2008. ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure 2008. *European Heart Journal*, 29(19), pp.2388–2442.

- Ding R, Tao W, Shao Y, Wang Y,. 2017. "High-sensitivity troponin I and risk of cardiovascular disease in the general population: a meta-analysis of prospective studies." *Clinical Biochemistry*. 2017 Jun;50(9):525-31.
- Eggers, K. M., Hammarsten, O. and Lindahl, B. (2023) 'Differences between high-sensitivity cardiac troponin T and i in stable populations: Underlying causes and clinical implications', *Clinical Chemistry and Laboratory Medicine*, 61(3), pp. 380–387.
- Felker GM, Hasselblad V, Tang WH, , Adrian F.H., Paul W.A., *et al.* Troponin in acute decompensated heart failure: Insights from the ASCEND-HF study. *Eur.J.Heart Failure* 2012;11:1257-1264.
- Fonarow GC., Abraham WT., Albert NM., Stough WG., Gheorghiade M., Greenberg BH. 2008. Factors identified as precipitating hospital admissions for heart failure and clinical outcomes: findings from OPTIMIZE-HF. *Arch Intern Med*. 168 (8) : 847-54 for the Management of Heart Failure. for the Management of Heart Failure.
- Fu, S., Ping, P., Wang, F. and Luo, L., 2018. Synthesis, secretion, function, metabolism and application of natriuretic peptides in heart failure. *Journal of Biological Engineering*, 12(1), pp.1–21.
- Galderisi, M., Cosyns B., Edvarsen, T., Cardim N., Delgado V., *et al.*, 2017. Standardization of adult transthoracic echocardiography reporting in agreement with recent chamber quantification, diastolic function, and heart valve disease recommendations: An expert consensus document of the European Association of Cardiovascular Imag. *European Heart Journal Cardiovascular Imaging*, 18(12), pp.1301–1310
- Gardner, R.S., Özalp, F., Murday, A.J., Robb, S.D. and McDonagh, T.A., 2003. N- terminal pro-brain natriuretic peptide: A new gold standard in predicting mortality in patients with advanced heart failure. *European Heart Journal*, 24(19), pp.1735–1743.
- Garg, P., Morris, P., Fazlanie, A. L., Vijayan, S., Dancso, B., Dastidar, A. G., Plein, S., Mueller, C., & Haaf, P. (2017). Cardiac biomarkers of acute coronary syndrome: from history to high-sensitivity cardiac troponin. *Internal and Emergency Medicine*, 12(2), 147–155.
- Gherasim L. *Capcanele troponinelor în urgențele cardiace. Tratat de Medicina Interna* (red. Leonida Gherasim), Ed. Medicala, Bucuresti, 2015.
- Gherasim, L. (2019). Troponins in Heart Failure - a Perpetual Challenge. *Maedica*, 14(4), 371–377
- Goh, V.J., Tromp, J., Teng, T.H.K., Tay, W.T., Van Der Meer, P., Ling, L.H., Siswanto, B.B., Hung, C.L., Shimizu, W., Zhang, S., Narasimhan, C., Yu, C.M., Park, S.W., Ngarmukos, T., Liew, H.B., Reyes, E., Yap, J., Macdonald, M., Richards, M.A., Anand, I., Lam, C.S.P., 2018. Prevalence, clinical correlates, and outcomes of anaemia in multi-ethnic asian patients with heart failure with reduced ejection fraction. *ESC Hear. Fail.* 5: 570– 578.
- Grewal, J., McKelvie, R.S., Persson, H., Tait, P., Carlsson, J., Swedberg, K., Ostergren, J. and Lonn, E., 2008. Usefulness of N-Terminal Pro-Brain Natriuretic Peptide and Brain Natriuretic Peptide to Predict

- Cardiovascular Outcomes in Patients With Heart Failure and Preserved Left Ventricular Ejection Fraction. *American Journal of Cardiology*, 102(6), pp.733–737.
- Hamatani, Y., Nagai T., Nakai M., Nishimura K., Honda Y., *et al.*, (2018) 'Elevated Plasma D-Dimer Level Is Associated with Short-Term Risk of Ischemic Stroke in Patients with Acute Heart Failure', *Stroke*, 49(7), pp. 1737–1740.
- Harjola V.P., Parissis J., Bauersachs J., Rocca H.P.B., Bueno H., *et al.*, 2020. Acute coronary syndrome and acute heart failure: a diagnostic dilemma and high risk combination. A statement from A acute Heart Failure Committee of the Heart Failure Association of the European Society of Cardiology. *ESC.2020 Ejh*.1831
- Hijazi Z, Oldgren J, Andersson U, Connolly S.J., Ezekowitz M.D., *et al.* Cardiac biomarkers are associated with an increased risk of stroke and death in patients with atrial fibrillation: a randomized evaluation of long-term anticoagulation therapy (RE-LY) substudy. *Circulation*. 2012;125(13):1605-1616.
- Horwich TB, Patel J, Mac Lellan WR, Fonarow G.C., *et al.* Cardiac troponin is associated with impaired hemodynamics, progressive left ventricular dysfunction and increased mortality with ratioin advanced heart failure. *Circulation* 2003;108:833.
- Hummel, A., Empen, K., Dörr, M., & Felix, S.B., 2015. Acute and acutely decompensated chronic heart failure. *Dtsch Arztebl Int* 112: 298–310.
- Hunt, S.A., Baker D.W., Chin M. H. Cinquegrani M.P., Feldman A.M., *et al.*, 2002. ACC/AHA guidelines for the evaluation and management of chronic heart failure in the adult: Executive summary: A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Journal of Heart and Lung Transplantation*, 21(2), pp.189–203.
- Januzzi GT, Filippatos G, Niemien M, Gheorghiade M. Troponin elevation in patients with heart failure: on behalf of the third Universal Definition of Management Infarction Global Task Force: Heart Failure Section. *Eur Heart J* 2012;18:2265-2271.
- Jeong, E.-M. and Dudley Jr, S.C., 2015. Diastolic Dysfunction. *Circulation Journal*, 79(3), pp.470–477.
- Jessup, M., Abraham W.T., Casey D.E., Feldman A.M., Francis G.S., *et al.*, 2009. 2009 focused update: ACCF/AHA guidelines for the diagnosis and management of heart failure in adults: A report of the American College of Cardiology Foundation/American Heart Association Task Force on practice guidelines: Developed in collaboration with t. *Circulation*, 119(14), pp.1977–2016.
- Kang, E., Ryu, H., Kim, J., Lee, J., Lee, K. B., Chae, D. W., Sung, S. A., Kim, S. W., Ahn, C., & Oh, K. H. (2019). Association between high-sensitivity cardiac troponin t and echocardiographic parameters in chronic kidney disease: Results from the know-ckd cohort study. *Journal of the American Heart Association*, 8(18).

- Kaura, A., Arnold, A.D., Panoulas, V., Glampson, B., Davies, J., *et al.*, 2020. Prognostic significance of troponin level in 3121 patients presenting with atrial fibrillation (The nihr health informatics collaborative trop-af study). *J Am Heart Assoc* 9.
- Kaura, A., Panoulas V., Glampson B., Davies J., Mulla A., Woods K., *et al.* (2019) 'Association of troponin level and age with mortality in 250 000 patients: Cohort study across five UK acute care centres', *The BMJ*, 367.
- Kim, W., Kim, B., Kim HJ, Lee JH, Shin J *et al.* (2022) 'Clinical implications of cardiac troponin-I in patients with hypertensive crisis visiting the emergency department', *Annals of Medicine*, 54(1), pp. 507–515.
- Kobayashi, S., Wakeyama, T., Ono, S., Ikeda, Y., Omura, M., *et al.*, 2020. A multicenter, randomized, double-blind, controlled study to evaluate the efficacy and safety of dantrolene on ventricular arrhythmia as well as mortality and morbidity in patients with chronic heart failure (SHO-IN trial): rationale and design. *J Cardiol* 75: 454–461.
- Kociol, R.D., Pang, P.S., Gheorghiade, M., Fonarow, G.C., *et al.*, 2010. Troponin elevation in heart failure: Prevalence, mechanisms, and clinical implications. *J Am Coll Cardiol* 56: 1071–1078.
- Kuster, Nils, Monnier, Karine, Baptista, Gregory, Dupuy, Anne-Marie, Badiou, Stéphanie, Bargnoux, Anne-Sophie, Jeandel, Claude and Cristol, Jean-Paul. "Estimation of age- and comorbidities-adjusted percentiles of high-sensitivity cardiac troponin T levels in the elderly" *Clinical Chemistry and Laboratory Medicine (CCLM)*, vol. 53, no. 5, 2015, pp. 691-698
- Lam, C.S.P., Voors, A.A., De Boer, R.A., Solomon, S.D. and Van Veldhuisen, D.J., 2018. Heart failure with preserved ejection fraction: From mechanisms to therapies. *European Heart Journal*, 39(30), pp.2780–2792.
- Lancellotti, P., Galderisi M., Edvardsen T., Donal E., Goliashch G., *et al.*, 2017. Echo-Doppler estimation of left ventricular filling pressure: Results of the multicentre EACVI Euro-Filling study. *European Heart Journal Cardiovascular Imaging*, 18(9), pp.961–968.
- Ledwoch, J., Kraxenberger, J., Krauth, A., Schneider, A., Leidgswendner, K., *et al.*, 2022. Prognostic impact of high-sensitive troponin on 30-day mortality in patients with acute heart failure and different classes of left ventricular ejection fraction. *Heart Vessels* 37: 1195–1202.
- Lee, D.S., Stitt, A., Austin, P.C., Stukel, T.A., Schull M.J., Chong A., *et al.*, 2012. Prediction of heart failure mortality in emergent care: A cohort study. *Ann Intern Med* 156: 767–775.
- Lesyuk, W., Kriza, C. and Kolominsky-Rabas, P., 2018. Cost-of-illness studies in heart failure: A systematic review 2004-2016. *BMC Cardiovascular Disorders*, 18(1), pp.1–11.
- Lilly SL. 2016. *Pathophysiology of heart disease*. Wolters Kluwer. 9 : 220-236.
- Masella, C., Viggiano, D., Molfini, I., Zacchia, M., Capolongo, G., Anastasio, P. and Simeoni, M., 2019. Diuretic Resistance in Cardio-Nephrology: Role of Pharmacokinetics, Hypochloremia, and Kidney Remodeling. *Kidney and Blood Pressure Research*, 44(5), pp.915–927

- Masip, J., Peacock W.F., Arrigo M., Rosello X., Platz E., *et al.* (2022) ‘Acute Heart Failure in the 2021 ESC Heart Failure Guidelines: a scientific statement from the Association for Acute CardioVascular Care (ACVC) of the European Society of Cardiology’, *European Heart Journal. Acute Cardiovascular Care*, 11(2), pp. 173–185.
- McDonagh, T. A., Metra, M., Adamo, M., Gardner, R. S., Baumbach, A., Böhm, M., Burri, H., Butler, J., Celutkiene, J., Chioncel, O., Cleland, J. G. F., Coats, A. J. S., Crespo-Leiro, M. G., Farmakis, D., Gilard, M., & Heymans, S. (2021). 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. *European Heart Journal*, 42(36), 3599–3726
- McMurray JJV. 2004. What are the clinical consequences of anemia in patients with chronic heart failure. *J Cardiac Failure*. 10 Suppl S: 10-12.
- Metra M., Davison B., Bettari L., Sun H., Edwards C., Lazzarini V., Piovaneli B., Carubelli V., Bugatti S., Lombardi C., Cotter G., Dei Cas L. 2012. Is worsening renal function an ominous prognostic sign in patients with acute heart failure?: the role of congestion and its interaction with renal function. *Circulation*. 5:54–62
- Michael Felker, G., Hasselblad, V., Wilson Tang, W.H., Hernandez, A.F., *et al.*, 2012. Troponin i in acute decompensated heart failure: Insights from the ASCEND-HF study. *Eur J Heart Fail* 14: 1257–1264.
- Michalska-Kasiczak, M., Bielecka-Dabrowa, A., Von Haehling, S., Anker, S.D., Rysz, J. and Banach, M., 2018. Biomarkers, myocardial fibrosis and comorbidities in heart failure with preserved ejection fraction: An overview. *Archives of Medical Science*, 14(4), pp.890–909.
- Miro, O., Rossello, X., Gil, V., Martin-Sanchez, F.J., Llorens P., *et al.*, 2017. Predicting 30-day mortality for patients with acute heart failure in the emergency department. *Ann Intern Med* 167: 698–705
- Myhre, P.L., Claggett, B., Ballantyne, C.M., Selvin, E., Rosjo H., *et al.*, 2019. Association between Circulating Troponin Concentrations, Left Ventricular Systolic and Diastolic Functions, and Incident Heart Failure in Older Adults. *JAMA Cardiol* 4: 997–1006
- Nishio, Y., Sato, Y., Taniguchi, R., Shizuta, S., Doi, T., *et al.*, 2007. Cardiac troponin T vs other biochemical markers in patients with congestive heart failure. *Circulation Journal* 71: 631–635
- Njelic, A., Wilson, C. and Cartwright, E. J. (2020) ‘Targeting Ca²⁺ + Handling Proteins for the Treatment of Heart Failure and Arrhythmias’, *Frontiers in Physiology*, 11(September)
- Ouwerkerk W., Voors AA., Zwinderman AH. 2014. Factors influencing the predictive power of model for predicting mortality and/ heart failure hospitalization in patients with heart failure. *JACC Heart Fail*. 2 : 429 – 436.
- Owan, T.E., Hodge, D.O., Herges, R.M., Jacobsen, S.J., Roger, V.L. and Redfield, M.M., 2006. Trends in Prevalence and Outcome of Heart Failure with Preserved Ejection Fraction. *New England Journal of Medicine*, 355(3), pp.251–259

- Pang, P.S., Fermann, G.J., Hunter, B.R., Levy, P.D., Lane K.A., *et al.*, 2019. TACIT (High Sensitivity Troponin T Rules Out Acute Cardiac Insufficiency Trial): An Observational Study to Identify Acute Heart Failure Patients at Low Risk for Rehospitalization or Mortality. *Circ Heart Fail* 12: 1–10
- Paulus, W.J. and van Ballegoij, J.J.M., 2010. Treatment of Heart Failure With Normal Ejection Fraction. An Inconvenient Truth! *Journal of the American College of Cardiology*, 55(6), pp.526–537
- Peacock, W.F., de Marco, T., Fonarow, G.C., Diercks, D., Wynne J., *et al.*, 2008. Cardiac Troponin and Outcome in Acute Heart Failure. *New England Journal of Medicine* 358: 2117–2126
- Pieske, B., Tschöpe C., Boer R.A., Fraser A.G., Anker S.D., *et al.*, 2019. How to diagnose heart failure with preserved ejection fraction: The HFA-PEFF diagnostic algorithm: A consensus recommendation from the Heart Failure Association (HFA) of the European Society of Cardiology (ESC). *European Heart Journal*, 40(40), pp.3297–3317
- Ponikowski, P., Voors A.A., Anker S.D., Bueno H., Cleland J.G.F., *et al.*, 2016. 2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. *European Heart Journal*, 37(27), pp.2129–2200m.
- Pranoto, A., Suastika L.O.S., Widiana G.K., Whinthuti I.B.R., Sari, N.M.A., *et al.* (2023) ‘The association of Hs-Troponin I with cardiac dysfunction and structural changes in chronic heart failure with reduced ejection fraction patients’, 12(1), *Bali Medical Journal* pp. 636–640
- Ralli, S., Horwich, T. B. and Fonarow, G. C. (2005) ‘Relationship between anemia, cardiac troponin I, and B-type natriuretic peptide levels and mortality in patients with advanced heart failure’, *American Heart Journal*, 150(6), pp. 1220–1227
- Redfield, M.M., Jacobsen, S.J., Burnett, J.C., Mahoney, D.W., Bailey, K.R. and Rodeheffer, R.J., 2003. Burden of systolic and diastolic ventricular dysfunction in the community: appreciating the scope of the heart failure epidemic. *JAMA*, 289(2), pp.194–202
- Reyes, E.B., Won. J., Firdaus I., Ghazi A.M., Phrommintikul A., *et al.*, 2016. Heart failure across Asia: Same healthcare burden but differences in organization of care. *International Journal of Cardiology*, 223, pp.163–167.
- Ronco, C. and Maisel, A., 2010. Volume overload and cardiorenal syndromes. *Congestive Heart Failure*, 16(SUPPL. 1), p.Si-Siv
- Ross JS., Chen. J., Lin Z., Bueno H., Curtis JP., Keenan PS., Normand SL., Schreiner G., Spertus JA., Vidan MT., Wang Y., Wang Y., Krumholz HM. 2010. Recent national trends in readmission rates after heart failure hospitalization. *Circulation*. 3: 97.
- Saxena, A. and Meshram, S. V. (2018) ‘Predictors of mortality in acute kidney injury patients admitted to medicine intensive care unit in a Rural Tertiary Care Hospital’, *Indian Journal of Critical Care Medicine*, 22(4), pp. 231–237.

- Schnabel R.B., Wild P.S., Wilde S., Ojeda F.M., Schulz A., Zeller T., 2014. Multiple biomarkers and atrial fibrillation in the general population. *PLoS One*. 2014;9(11): e112486
- Schwinger, R.H.G., 2021. Pathophysiology of heart failure. In *Cardiovascular Diagnosis and Therapy*. Elsevier Inc., pp. 442–460
- Sedighi, S.M., Nguyen M., Khalil A., Fulop T.,(2020) ‘The impact of cardiac troponin in elderly patients in the absence of acute coronary syndrome: A systematic review’, *IJC Heart and Vasculature*, 31, p. 100629
- Siswanto, B.B., Radi, B., Kalim, H., Santoso, A., Suryawan, R., Erwinanto, Antono, E. and Santoso, T., 2010. Heart Failure in NCVC Jakarta and 5 hospitals in Indonesia. *CVD Prevention and Control*, 5(1), pp.35–38.
- Slah KS, Maisel AS, Fonarow GC., 2018. Troponin in Heart Failure. *Heart Failure Clin* 2018; 14:57-64.
- Stevenson MM., Yoder I. 1970. Studies of platelet aggregation, plasma adenosine diphosphate breakdown, and blood coagulation in magnesium deficient calves and rats. *Thromb Diarrh Herrorrh*. 22:299–305.
- Tanase, D.M., Radu, S., Al Shurbaji, S., Baroi, G.L., Costea, C.F., Turliuc, M.D., Ouatu, A. and Floria, M., 2019. Natriuretic peptides in heart failure with preserved left ventricular ejection fraction: From molecular evidences to clinical implications. *International Journal of Molecular Sciences*, 20(11), pp.1–23.
- Thiele, H., Ohman, E.M., De Waha-Thiele, S., Zeymer, U., Desch, S., 2019. Management of cardiogenic shock complicating myocardial infarction: An update 2019. *Eur. Heart J*. 40: 2671–2683.
- Thygesen K, Alpert JS, Jaffe AS., Chaitman B.R., Bax J.J., *et. al*. Fourth Universal Definition of Myocardial Infarction (2018). ESC/ACC/AHA/WHF Expert Consensus Document. *Circulation* 2018;138:e 618-651
- Thygesen K, Mair J, Katus H, Plebani M., Venge P., *et al*. 2010. The Study Group of Biomarker in Cardiology of the ESC Working Group on Acute cardiac care. Recommendation of the use of cardiac troponin measurement in acute cardiac care. *Eur Heart J* 2010;31:2197-2206.
- Turakhia, M.P., Schiller, N.B., Whooley, M., 2008. Prognostic Significance of Increased Left Ventricular Mass Index to Mortality and Sudden Death in Patients with Stable Coronary Heart Disease (From the Heart and Soul Study). *Am J Cardiol* 2008 November 1;102 (9): 1131-1135.
- Upadhyay, B., Pisani, B. and Kitzman, D.W., 2017. Evolution of a Geriatric Syndrome: Pathophysiology and Treatment of Heart Failure with Preserved Ejection Fraction. *Journal of the American Geriatrics Society*, 65(11), pp.2431–2440
- Van Diepen, S., Katz, J. N., Albert, N. M., Henry, T. D., Jacobs, A. K., Kapur, N. K., Kilic, A., Menon, V., Ohman, E. M., Sweitzer, N. K., Thiele, H., Washam, J. B., & Cohen, M. G. (2017). Contemporary Management of Cardiogenic Shock: A Scientific Statement from the American Heart Association. In *Circulation* (Vol. 136, Issue 16)

- Van riet EES., Hoes AW., Limburg A., Landman AJ., Van der Hoeven H., Rutten FH. 2014. Prevalence of unrecognized heart failure in older persons with shortness of breath on exertion. *Eur J Heart Fail.* 16 : 772 – 777.
- Vermeulen, J. T. (1998) ‘Mechanisms of arrhythmias in heart failure’, *Journal of Cardiovascular Electrophysiology*, 9(2), pp. 208–221
- Wang, T.J., Evans, J.C., Benjamin, E.J., Levy, D., LeRoy, E.C., Vasan, R.S., 2003. Natural history of asymptomatic left ventricular systolic dysfunction in the community. *Circulation* 108: 977–982
- Yancy, C.W., Jessup M., Bozkurt B., Butler J., Casey Jr D., *et al.*, 2013. PRACTICE GUIDELINE 2013 ACCF/AHA Guideline
- Zakeri, R. and Cowie, M.R., 2018. Heart failure with preserved ejection fraction: Controversies, challenges and future directions. *Heart*, 104(5), pp.377–384.
- Zhang, D., Shen, X. and Qi, X. (2016) ‘Resting heart rate and all-cause and cardiovascular mortality in the general population: A meta-analysis’, *Cmaj*, 188(3), pp. E53–E63. doi: 10.1503/cmaj.150535.
- Zile, M.R., Baicu C.F., Ikonomidis J.S., Stroud R.E., Nietert P.J., *et al.*, 2015. Myocardial stiffness in patients with heart failure and a preserved ejection fraction contributions of collagen and titin. *Circulation*, 131(14), pp.1247–1259