**Cardiovascular Pathophysiology and Therapeutics Group**

**Basil Hetzel Institute, TQEH**

**2020 Publications**

1: Coexistence and outcome of coronary artery disease in Takotsubo syndrome.

Napp LC, Cammann VL, Jaguszewski M, Szawan KA, Wischnewsky M, Gili S, Knorr M, Heiner S, Citro R, Bossone E, D'Ascenzo F, Neuhaus M, Franke J, Sorici-Barb I, Noutsias M, Burgdorf C, Koenig W, Kherad B, Sarcon A, Rajan L, Michels G, Pfister R, Cuneo A, Jacobshagen C, Karakas M, Pott A, Meyer P, Arroja JD, Banning A, Cuculi F, Kobza R, Fischer TA, Vasankari T, Airaksinen KEJ, Hauck C, Paolini C, Bilato C, Imori Y, Kato K, Kobayashi Y, Opolski G, Budnik M, Dworakowski R, MacCarthy P, Kaiser C, Osswald S, Galiuto L, Dichtl W, Chan C, Bridgman P, Beug D, Delmas C, Lairez O, El-Battrawy I, Akin I, Gilyarova E, Shilova A, Gilyarov M, **Horowitz JD**, Polednikova K, Tousek P, Widimský P, Winchester DE, Galuszka J, Ukena C, Poglajen G, Carrilho-Ferreira P, Di Mario C, Prasad A, Rihal CS, Schulze PC, Bianco M, Crea F, Borggrefe M, Maier LS, Pinto FJ, Braun-Dullaeus RC, Rottbauer W, Katus HA, Hasenfuß G, Tschöpe C, Pieske BM, Thiele H, Schunkert H, Böhm M, Felix SB, Münzel T, Bax JJ, Bauersachs J, Braunwald E, Lüscher TF, Ruschitzka F, Ghadri JR, Templin C. *Eur Heart J. 2020 Sep7;41(34):3255-3268. doi: 10.1093/eurheartj/ehaa210. PMID: 32484517.*

2: Age-Related Variations in Takotsubo Syndrome.

Cammann VL, Szawan KA, Stähli BE, Kato K, Budnik M, Wischnewsky M, Dreiding S, Levinson RA, Di Vece D, Gili S, Citro R, Bossone E, Neuhaus M, Franke J, Meder B, Jaguszewski M, Noutsias M, Knorr M, Heiner S, D'Ascenzo F, Dichtl W, Burgdorf C, Kherad B, Tschöpe C, Sarcon A, Shinbane J, Rajan L, Michels G, Pfister R, Cuneo A, Jacobshagen C, Karakas M, Koenig W, Pott A, Meyer P, Roffi M, Banning A, Wolfrum M, Cuculi F, Kobza R, Fischer TA, Vasankari T, Airaksinen KEJ, Napp LC, Dworakowski R, MacCarthy P, Kaiser C, Osswald S, Galiuto L, Chan C, Bridgman P, Beug D, Delmas C, Lairez O, Gilyarova E, Shilova A, Gilyarov M, El-Battrawy I, Akin I, Poledniková K, Toušek P, Winchester DE, Galuszka J, Ukena C, Poglajen G, Carrilho-Ferreira P, Hauck C, Paolini C, Bilato C, Kobayashi Y, Shoji T, Ishibashi I, Takahara M, Himi T, Din J, Al-Shammari A, Prasad A, Rihal CS, Liu K, Schulze PC, Bianco M, Jörg L, Rickli H, Pestana G, **Nguyen TH**, Böhm M, Maier LS, Pinto FJ, Widimský P, Felix SB, Braun-Dullaeus RC, Rottbauer W, Hasenfuß G, Pieske BM, Schunkert H, Borggrefe M, Thiele H, Bauersachs J, Katus HA, **Horowitz JD**, Di Mario C, Münzel T, Crea F, Bax JJ, Lüscher TF, Ruschitzka F, Ghadri JR, Opolski G, Templin C. *J* *Am Coll Cardiol. 2020 Apr 28;75(16):1869-1877. doi: 10.1016/j.jacc.2020.02.057.* *PMID: 32327096.*

3: Impact of aspirin on takotsubo syndrome: a propensity score-based analysis of the InterTAK Registry.

D'Ascenzo F, Gili S, Bertaina M, Iannaccone M, Cammann VL, Di Vece D, Kato K, Saglietto A, Szawan KA, Frangieh AH, Boffini B, Annaratone M, Sarcon A, Levinson RA, Franke J, Napp LC, Jaguszewski M, Noutsias M, Münzel T, Knorr M, Heiner S, Katus HA, Burgdorf C, Schunkert H, Thiele H, Bauersachs J, Tschöpe C, Pieske BM, Rajan L, Michels G, Pfister R, Cuneo A, Jacobshagen C, Hasenfuß G, Karakas M, Koenig W, Rottbauer W, Said SM, Braun-Dullaeus RC, Banning A, Cuculi F, Kobza R, Fischer TA, Vasankari T, Airaksinen KEJ, Opolski G, Dworakowski R, MacCarthy P, Kaiser C, Osswald S, Galiuto L, Crea F, Dichtl W, Franz WM, Empen K, Felix SB, Delmas C, Lairez O, El-Battrawy I, Akin I, Borggrefe M, **Horowitz JD**, Kozel M, Tousek P, Widimský P, Gilyarova E, Shilova A, Gilyarov M, Biondi-Zoccai G, Winchester DE, Ukena C, Neuhaus M, Bax JJ, Prasad A, Di Mario C, Böhm M, Gasparini M, Ruschitzka F, Bossone E, Citro R, Rinaldi M, De Ferrari GM, Lüscher T, Ghadri JR, Templin C. *Eur J Heart Fail. 2020 Feb;22(2):330-337. doi: 10.1002/ejhf.1698. Epub 2019 Dec 20. PMID: 31863563.*

4: Intraventricular Thrombus Formation and Embolism in Takotsubo Syndrome: Insights From the International Takotsubo Registry.

Ding KJ, Cammann VL, Szawan KA, Stähli BE, Wischnewsky M, Di Vece D, Citro R, Jaguszewski M, Seifert B, Sarcon A, Knorr M, Heiner S, Gili S, D'Ascenzo F, Neuhaus M, Napp LC, Franke J, Noutsias M, Burgdorf C, Koenig W, Kherad B, Rajan L, Michels G, Pfister R, Cuneo A, Jacobshagen C, Karakas M, Pott A, Meyer P, Arroja JD, Banning A, Cuculi F, Kobza R, Fischer TA, Vasankari T, Airaksinen KEJ, Paolini C, Bilato C, Carrilho-Ferreira P, Opolski G, Dworakowski R, MacCarthy P, Kaiser C, Osswald S, Galiuto L, Dichtl W, Chan C, Bridgman P, Delmas C, Lairez O, El-Battrawy I, Akin I, Gilyarova E, Shilova A, Gilyarov M, Kozel M, Tousek P, Widimský P, Winchester DE, Galuszka J, Ukena C, **Horowitz JD**, Di Mario C, Prasad A, Rihal CS, Pinto FJ, Crea F, Borggrefe M, Braun-Dullaeus RC, Rottbauer W, Bauersachs J, Katus HA, Hasenfuß G, Tschöpe C, Pieske BM, Thiele H, Schunkert H, Böhm M, Felix SB, Münzel T, Bax JJ, Lüscher TF, Ruschitzka F, Ghadri JR, Bossone E, Templin C. *Arterioscler Thromb Vasc Biol. 2020 Jan;40(1):279-287. doi: 10.1161/ ATVBAHA. 119.313491. Epub 2019 Nov 26. PMID: 31766870.*

5: Takotsubo syndrome: A key role for inflammation?

Nguyen TH, Surikow SY, **Horowitz JD**. *Trends Cardiovasc Med. 2020 Apr 25:S1050-1738(20)30055-4. doi:* *10.1016/j.tcm.2020.04.002. Epub ahead of print. PMID: 32344019.*

6: Takotsubo Syndrome: Finally Emerging From the Shadows?

Ong GJ, Nguyen TH, Kucia A, Liu SF, Surikow SY, Girolamo O, Chong CR, Chirkov YY, Schenck-Gustafsson K, Frenneaux MP, **Horowitz JD**. *Heart Lung Circ. 2021 Jan;30(1):36-44. doi:* *10.1016/j.hlc.2020.10.006. Epub 2020 Nov 6. PMID: 33168470.*

7: Matrix metalloproteinase-2 activation: critical to myocardial contractile dysfunction following ischaemia-reperfusion. **Horowitz JD**, Chong CR. *Cardiovasc Res. 2020 Apr 1;116(5):876-878. doi: 10.1093/cvr/cvz271. PMID: 31800010.*

8: Nitroxyl: A Novel Strategy to Circumvent Diabetes Associated Impairments in Nitric Oxide Signaling.

Velagic A, Qin C, Woodman OL, **Horowitz JD**, Ritchie RH, Kemp-Harper BK. *Front Pharmacol. 2020 May 19;11:727. doi: 10.3389/fphar.2020.00727. PMID: 32508651; PMCID: PMC7248192.*

9: Prolonged suppression of the anti-oxidant/anti-inflammatory effects of BNP post-Takotsubo syndrome.

Liu S, Ngo D, Chirkov Y, Stansborough J, Chong CR, **Horowitz JD**. *ESC Heart Fail. 2020 Oct;7(5):2250-2257. doi: 10.1002/ehf2.12729. Epub 2020 Jun 29. PMID: 32597024; PMCID: PMC7524045.*

10: Increased Rate of Hospitalization With Prinzmetal Angina: What Exactly Is Happening?

Nguyen TH, Chirkov YY, Liu SF, Stafford I, **Horowitz JD**. *Am J Med. 2020 Apr;133(4):e162-e163. doi: 10.1016/j.amjmed.2019.07.032. PMID: 32331575.*

11: Does high on-treatment platelet aggregability reflect poor individual response to clopidogrel?

Nooney VB, Hurst NL, De Caterina R, Chirkov YY, **Horowitz JD**. *Thromb Res. 2020 Dec;196:510-515. doi:* *10.1016/j.thromres.2020.10.009. Epub 2020 Oct 12. PMID: 33091705.*

12: Incremental "Therapeutic" Myocardial Exposure to Catecholamines: Incidence and Impact in Takotsubo Syndrome.

Ong GJ, Nguyen TH, Stansborough J, Surikow SY, **Horowitz JD**. Cardiovasc Drugs Ther. 2020 Feb;34(1):95-100. doi:10.1007/s10557-019-06918-5. PMID: 32076930.

13: Endothelial dysfunction and glycocalyx shedding inheart failure: insights from patients receiving cardiac resynchronisation therapy.

Ajaero CN, Procter NEK, Chirkov YY, Heresztyn T, Arstall MA, McGavigan AD, Frenneaux MP, **Horowitz JD**. *Heart Vessels. 2020 Feb;35(2):197-206. doi: 10.1007/s00380-019-01481-3. Epub 2019 Aug 27. PMID: 31455993.*

14: Inorganic nitrate and nitrite supplementation fails to improve skeletal muscle mitochondrial efficiency in mice and humans.

Ntessalen M, Procter NEK, Schwarz K, Loudon BL, Minnion M, Fernandez BO, Vassiliou VS, Vauzour D, Madhani M, Constantin-Teodosiu D, **Horowitz JD**, Feelisch M, Dawson D, Crichton PG, Frenneaux MP. *Am J Clin Nutr. 2020 Jan 1;111(1):79-89. doi:* *10.1093/ajcn/nqz245. PMID: 31599928; PMCID: PMC6944528.*

15: Nitric Oxide Resistance, Induced in the Myocardium by Diabetes, Is Circumvented by the Nitric Oxide Redox Sibling, Nitroxyl.

Qin CX, Anthonisz J, Leo CH, Kahlberg N, Velagic A, Li M, Jap E, Woodman OL, Parry LJ, **Horowitz JD**, Kemp-Harper BK, Ritchie RH. *Antioxid Redox Signal. 2020 Jan 1;32(1):60-77. doi:* *10.1089/ars.2018.7706. PMID: 31680536.*

16: Serial measurement of interleukin-6 and risk of mortality in anticoagulated patients with atrial fibrillation: Insights from ARISTOTLE and RE-LY trials.

Aulin J, Hijazi Z, Siegbahn A, Andersson U, Alexander JH, Connolly SJ, Ezekowitz MD, Gersh BJ, Granger CB, **Horowitz J**, Hylek EM, Lopes RD, Yusuf S, Wallentin L, Oldgren J. *J Thromb Haemost. 2020 Sep;18(9):2287-2295. doi:10.1111/jth.14947. Epub 2020 Aug 1. PMID: 32510737.*

17: Cardiovascular Therapeutic Potential of the Redox Siblings, Nitric Oxide (NO•) and Nitroxyl (HNO), in the Setting of Reactive Oxygen Species Dysregulation.

Kemp-Harper BK, Velagic A, Paolocci N, **Horowitz JD**, Ritchie RH. Handb Exp Pharmacol. 2020 Aug 20. doi: 10.1007/164\_2020\_389. Epub ahead ofprint. PMID: 32813078.

18: The N-AcetylCysteine and RAMipril in Takotsubo Syndrome Trial (NACRAM): Rationale and design of a randomised controlled trial of sequential N-Acetylcysteine and ramipril for the management of Takotsubo Syndrome.

Ong GJ, Nguyen TH, Stansborough J, Surikow S, Mahadavan G, Worthley M, **Horowitz J**. *Contemp Clin Trials. 2020 Mar;90:105894. doi: 10.1016/j.cct.2019.105894. Epub 2019 Nov16. PMID: 31740426.*

19: Heterogeneity of diabetes as a risk factor for major adverse cardiovascular events in anticoagulated patients with atrial fibrillation: an analysis of the ARISTOTLE trial.

De Caterina R, Patti G, Westerbergh J, **Horowitz J**, Ezekowitz JA, Lewis BS, Lopes RD, McMurray JJV, Atar D, Bahit MC, Keltai M, López-Sendón JL, Ruzyllo W, Granger CB, Alexander JH, Wallentin L. *Eur Heart J Cardiovasc* *Pharmacother. 2020 Dec 28:pvaa140. doi: 10.1093/ehjcvp/pvaa140. Epub ahead of* *print. PMID: 33367487.*

20: Prognostic value of texture analysis from cardiac magnetic resonance imaging in patients with Takotsubo syndrome: a machine learning based proof-of-principle approach.

Mannil M, Kato K, Manka R, von Spiczak J, Peters B, Cammann VL, Kaiser C, Osswald S, Nguyen TH, **Horowitz JD**, Katus HA, Ruschitzka F, Ghadri JR, Alkadhi H, Templin C. *Sci Rep. 2020 Nov 25;10(1):20537. doi:* *10.1038/s41598-020-76432-4. PMID: 33239695; PMCID: PMC7689426.*