

GIOVANNI BENFARI

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PROFILO PROFESSIONALE

Cardiologo e Professore Associato presso la Sezione di Cardiologia, Dipartimento di Medicina, Università di Verona. Research Collaborator presso il Department of Cardiovascular Disease, Mayo Clinic, Rochester, Minnesota, USA. Direttore della Scuola di Specializzazione in Malattie dell'Apparato Cardiovascolare, Università di Verona.

ESPERIENZA PROFESSIONALE E FORMAZIONE ALLA RICERCA

- Professore Associato, Dipartimento di Medicina - Sezione di Cardiologia, Università di Verona, Verona, Italia | luglio 2024 - presente
- Professore Assistente / Ricercatore universitario, Dipartimento di Medicina - Sezione di Cardiologia, Università di Verona, Verona, Italia | luglio 2021 - giugno 2024
- Research Collaborator, Department of Cardiovascular Disease, Mayo Clinic, Rochester, Minnesota, USA | marzo 2017 - presente
- Cardiologo, Dipartimento di Medicina - Sezione di Cardiologia, Università di Verona, Verona, Italia | agosto 2018 - presente
- Dottorato di ricerca in Scienze Cardiovascolari, Università di Verona, Italia | ottobre 2017 - luglio 2021
- Research Fellow, Department of Cardiovascular Disease, Mayo Clinic, Rochester, Minnesota, USA | ottobre 2015 - marzo 2017
- Medico in formazione specialistica in Cardiologia, Università di Verona, Verona, Italia | agosto 2013 - agosto 2018

FORMAZIONE

- Scuola di Specializzazione in Malattie dell'Apparato Cardiovascolare, Università di Verona, Italia | 2018
Votazione: 70/70 e lode
- Laurea in Medicina e Chirurgia, Università di Verona, Italia | 2012
Votazione: 110/110 e lode

ATTIVITÀ CLINICA

Certificato in ecocardiografia; attività clinica presso l'Università di Verona:

- Laboratorio di ecocardiografia transtoracica (TTE) e transesofagea (TEE)
- Ecocardiografia da stress
- Ambulatorio per lo scompenso cardiaco

AFFILIAZIONI SCIENTIFICHE E PROFESSIONALI

- Fellow della Società Italiana di Cardiologia (FISC)
- Fellow della European Society of Cardiology (FESC)
- European Association of Cardiovascular Imaging (EACVI)
- ARCA - Società Regionale dei Cardiologi Ambulatoriali, nucleo di coordinamento Veneto
- Società Italiana di Cardiologia (SIC)

LINGUE

Lingua	Ascolto	Lettura	Interazione	Produzione orale	Scrittura
Inglese	C1	C1	C1	C1	C1

Madrelingua: italiano. Livelli secondo il Quadro Comune Europeo di Riferimento per le Lingue.

PUBBLICAZIONI SCIENTIFICHE

Pubblicazioni su riviste internazionali. Elenco completo riportato nel CV originale; titoli e riferimenti bibliografici mantenuti nella lingua di pubblicazione.

- Butcher SC, Essayagh B, Steyerberg EW, Benfari G, Antoine C, Grigioni F, Le Tourneau T, Roussel JC, van Wijngaarden A, Marsan NA, Tribouilloy C, Rusinaru D, Hochstadt A, Topilsky Y, Michelena HI, Delgado V, Bax JJ, Enriquez-Sarano M. Factors influencing post-surgical survival in degenerative mitral regurgitation. Eur Heart J. 2023 Jan 26;ehad004. doi: 10.1093/eurheartj/ehad004. Epub ahead of print. PMID: 36702625.
- Benfari G, Sorajja P, Pedrazzini G, Taramasso M, Gavazzoni M, Biasco L, Essayagh B, Grigioni F, Bae R, Tribouilloy C, Vanoverschelde JL, Michelena H, Bapat VN, Vancraynest D, Klersy C, Curti M, Thapa P, Enriquez-Sarano M. Association of transcatheter edge-to-edge repair with improved survival in older patients with severe, symptomatic degenerative mitral regurgitation. Eur Heart J. 2022 May 1;43(17):1626-1635. doi: 10.1093/eurheartj/ehab910. PMID: 35090000.
- B. Essayagh, G. Benfari, C. Antoine, F. Grigioni, Thierry Le Tourneau, Jean-Christian Roussel, Jeroen J. Bax, Victoria Delgado, Nina Ajmone Marsan, Aniek van Wijngaarden, Christophe Tribouilloy, Dan Rusinaru, Aviram Hochstadt, Yan Topilsky, Prabin Thapa, Hector I. Michelena and Maurice Enriquez-Sarano . The MIDA-Q Mortality Risk Score: A Quantitative Prognostic Tool for the Mitral Valve Prolapse Spectrum. Circulation, 27 Dec 2022https://doi.org/10.1161/CIRCULATIONAHA.122.062612

4. Roselli C, Yu M, Nauffal V, Georges A, Yang Q, Love K, Weng LC, Delling FN, Maurya SR, Schrölkamp M, Tfelt-Hansen J, Hagège A, Jeunemaitre X, Debette S, Amouyel P, Guan W, Muehlschlegel JD, Body SC, Shah S, Samad Z, Kyryachenko S, Haynes C, Rienstra M, Le Tourneau T, Probst V, Roussel R, Wijdh-Den Hamer JJ, Siland JE, Knowlton KU, Jacques Schott J, Levine RA, Benjamin EJ, Vasan RS, Horne BD, Muhlestein JB, Benfari G, Enriquez- Sarano M, Natale A, Mohanty S, Trivedi C, Shoemaker MB, Yoneda ZT, Wells QS, Baker MT, Farber-Eger E, Michelena HI, Lundby A, Norris RA, Slaughter SA, Dina C, Lubitz SA, Bouatia-Naji N, Ellinor PT, Milan DJ. Genome-wide association study reveals novel genetic loci: a new polygenic risk score for mitral valve prolapse. *Eur Heart J*. 2022 May 1;43(17):1668-1680. doi: 10.1093/eurheartj/ehac049. PMID: 35245370.
5. Malagoli A, Rossi L, Zanni A, Sticozzi C, Piepoli MF, Benfari G. Quantified mitral regurgitation and left atrial function in heart failure with reduced ejection fraction: interplay and outcome implications. *Eur J Heart Fail*. 2022 Apr;24(4):694-702. doi: 10.1002/ehf.2429. Epub 2022 Jan
6. Essayagh B, Benfari G, Antoine C, Maalouf J, Pislariu S, Thapa P, Michelena HI, Enriquez- Sarano M. Incremental Prognosis by Left Atrial Functional Assessment: The Left Atrial Coupling Index in Patients With Floppy Mitral Valves. *J Am Heart Assoc*. 2022 May 3;11(9):e024814. doi: 10.1161/JAHA.121.024814. Epub 2022 Apr
7. Mantovani A, Byrne CD, Benfari G, Bonapace S, Simon TG, Targher G. Risk of Heart Failure in Patients With Nonalcoholic Fatty Liver Disease: JACC Review Topic of the Week. *J Am Coll Cardiol*. 2022 Jan 18;79(2):180-191. doi: 10.1016/j.jacc.2021.11.007. PMID: 35027111.
8. Rubino F, Scarsini R, Piccoli A, San Biagio L, Tropea I, Pighi M, Prati D, Tavella D, Pesarini G, Benfari G, Onorati F, Gottin L, Faggian G, Ribichini FL. Comparative Prognostic Value of Parameters of Pulsatile Right Ventricular Afterload in Patients With Advanced Heart Failure Awaiting Heart Transplantation. *Am J Cardiol*. 2022 Sep 12:S0002-9149(22)00840-2. doi: 10.1016/j.amjcard.2022.08.010. Epub ahead of print. PMID: 36109208.
9. Pastore MC, Mandoli GE, Giannoni A, Benfari G, Dini FL et al; Collaborators: DISCOVER-ARNI Collaborators, Rosa G, Magnesa M, Mazzeo P, De Carli G, Bellino M, Iuliano G, Casciano O, Binno S, Canepa M, Tondi S, Ciccoira M, Mega S. Sacubitril/valsartan reduces indications for arrhythmic primary prevention in heart failure with reduced ejection fraction: insights from DISCOVER-ARNI, a multicenter Italian register. *Eur Heart J Open*. 2021 Dec 21;2(1):oeab046. doi: 10.1093/ehjopen/oeab046. PMID: 35919657; PMCID: PMC9242049.
10. Setti M, Nistri S, Rossi A, Mantovani F, Ribichini FL, Benfari G. Unequivocal interpretation of dobutamine stress echocardiography in low-flow, low-gradient aortic stenosis by right parasternal view. *Echocardiography*. 2022 Jan;39(1):136-139. doi: 10.1111/echo.15277. Epub 2021 Dec 18. PMID: 34923669.
11. Mandoli GE, Pastore MC, Benfari G, Setti M, Nistor D, D'Ascenzi F, Focardi M, Baccani B, Patti G, Valente S, Mondillo S, Cameli M. New echocardiographic indices of shift to biventricular failure to optimize risk stratification of chronic heart failure. *ESC Heart Fail*. 2022 Feb;9(1):476-
12. Fical B, Corsini I, Clemente M, Cappelleri A, Remaschi G, Quer L, Urbani G, Sandrini C, Biban P, Dani C, Benfari G. Feasibility, Reproducibility and Reference Ranges of Left Atrial Strain in Preterm and Term Neonates in the First 48 h of Life. *Diagnostics (Basel)*. 2022 Jan 29;12(2):350. doi: 10.3390/diagnostics12020350. PMID: 35204441; PMCID: PMC8871374.
13. Benfari G, Cavalcante JL, Enriquez-Sarano M. Multimodality imaging in functional mitral regurgitation: Valvular disease and the chamber remodeling quantification. *Int J Cardiol*. 2022 Feb 15;349:106-108. doi: 10.1016/j.ijcard.2021.11.065. Epub 2021 Nov 30. PMID: 34861321.
14. Mantovani F, Benfari G, Barbieri A, Manca F, Guiducci V, Navazio A, Clavel MA. Case Report: Posterior Thoracic Window in the Presence of Pleural Effusion in Critical Care Medicine: One More Chance to Image the Aortic Valve. *Front Cardiovasc Med*. 2022 Jun 23;9:907168. doi: 10.3389/fcvm.2022.907168. PMID: 35811731; PMCID: PMC9260961.
15. Lisi M, Mandoli GE, Cameli M, Pastore MC, Righini FM, Benfari G, Rubboli A, D'Ascenzi F, Focardi M, Tsioulpas C, Bernazzali S, Maccherini M, Lisi E, Lindqvist P, Valente S, Mondillo S, Henein MY. Left atrial strain by speckle tracking predicts atrial fibrosis in patients undergoing heart transplantation. *Eur Heart J Cardiovasc Imaging*. 2022 Jun 1;23(6):829-835. doi: 10.1093/ehjci/jeab106. PMID: 34118154.
16. Stricagnoli M, Sciacaluga C, Mandoli GE, Rizzo L, Sisti N, Aboumarie HS, Benfari G, Maritan L, Tsioulpas C, Bernazzali S, Maccherini M, Natali BM, Focardi M, D'Ascenzi F, Lisi M, Valente S, Mondillo S, Cameli M. Clinical, echocardiographic and hemodynamic predictors of right heart failure after LVAD placement. *Int J Cardiovasc Imaging*. 2022 Mar;38(3):561-570. doi: 10.1007/s10554-021-02433-7. Epub 2021 Oct 18. PMID: 34661853; PMCID: PMC8926966.
17. Carpenito M, Fanti D, Mega S, Benfari G, Bono MC, Rossi A, Ribichini FL, Grigioni F. The Central Role of Left Atrium in Heart Failure. *Front Cardiovasc Med*. 2021 Aug 13;8:704762. doi: 10.3389/fcvm.2021.704762. eCollection 2021.
18. Essayagh B, Mantovani F, Benfari G, Enriquez-Sarano M. Of Causality and Inferences: Mitral Annular Disjunction and Its Consequences-Reply. *J Am Soc Echocardiogr*. 2022 Feb;35(2):239-
19. Maffei C, Inciardi RM, Khan MS, Tafciu E, Bergamini C, Benfari G, Setti M, Ribichini FL, Ciccoira M, Butler J, Rossi A. Determinants of exercise intolerance symptoms considered non-specific for heart failure in patients with stage A and B: role of the left atrium in the transition phase to overt heart failure. *Int J Cardiovasc Imaging*. 2021 Aug 30. doi: 10.1007/s10554-021-02375-0. Online ahead of print. PMID: 34460024
20. E. Picano et al. Stress Echo 2030: The Novel ABCDE-(FGLPR) Protocol to Define the Future of Imaging. *J Clin Med* 2021 Aug 17;10(16):3641. doi: 10.3390/jcm10163641.
21. D'Andrea A, Iardi F, D'Ascenzi F, Bandera F, Benfari G, Esposito R, Malagoli A, Mandoli GE, Santoro C, Russo V, D'Alto M, Cameli M. Impaired myocardial work efficiency in heart failure with preserved ejection fraction. *Eur Heart J Cardiovasc Imaging*. 2021 Aug 19;jeab153. doi: 10.1093/ehjci/jeab153. Online ahead of print.
22. Enriquez-Sarano M, Benfari G, Messika-Zeitoun D, Grigioni F, Michelena HI. Functional mitral regurgitation: a proportionate or disproportionate focus of attention? *Eur J Heart Fail*. 2021 Aug
23. Bartolacelli Y, Barbieri A, Antonini-Canterin F, Pepi M, Monte IP, Trocino G, Barchitta A, Cresti A, Miceli S, Petrella L, Benedetto F, Zito C, Benfari G, et al. On Behalf Of The Stress Echo Study Group Of The Italian Society Of Echocardiography And Cardiovascular Imaging. Imaging Quality Control, Methodology Harmonization and Clinical Data Management in Stress Echo 2030. *J Clin Med*. 2021 Jul 7;10(14):3020. doi: 10.3390/jcm10143020.
24. Benfari G, Antoine C, Essayagh B, Batista R, Maalouf J, Rossi A, Grigioni F, Thapa P, Michelena HI, Enriquez-Sarano M. Functional Mitral Regurgitation Outcome and Grading in Heart Failure With Reduced Ejection Fraction. *JACC Cardiovasc Imaging* 2021 Jul 7;S1936-878X(21)00437-X. doi: 10.1016/j.jcmg.2021.05.017. Online ahead of print.
25. Annachiara Benini, Giovanni Benfari, Mara Pilati, Giovanni Battista Luciani, Flavio Luciano Ribichini, Maria Antonia Prioli. Bicuspid Aortic Valve Disease from Infancy to Older Age: A 25- Year Experience from an Italian Referral Center. *iovasc Echogr Jan-Mar 2021*;31(1):29-34. doi: 10.4103/jcecho.jcecho_115_20. Epub 2021 May 21.
26. PMID: 35014120.
27. Lisi M, Mandoli GE, Cameli M, Pastore MC, Righini FM, Benfari G, Rubboli A, D'Ascenzi F, Focardi M, Tsioulpas C, Bernazzali S, Maccherini M, Lisi E, Lindqvist P, Valente S, Mondillo S, Henein MY. Left atrial strain by speckle tracking predicts atrial fibrosis in patients undergoing heart transplantation. *Eur Heart J Cardiovasc Imaging*. 2021 Jun 12;jeab106. doi: 10.1093/ehjci/jeab106. Online ahead of print.
28. Malagoli A, Albin A, Mandoli GE, Baggiano A, Vinco G, Bandera F, D'Andrea A, Esposito R, D'Ascenzi F, Sorrentino R, Santoro C, Benfari G, Contorni F, Cameli M; Working group of Echocardiography of Italian Society of Cardiology (SIC). Multimodality imaging of the ischemic right ventricle: an overview and proposal of a diagnostic algorithm. *Int J Cardiovasc Imaging*. 2021 Jun 10. doi: 10.1007/s10554-021-02309-w. Online ahead of print.
29. Mandoli GE, D'Ascenzi F, Vinco G, Benfari G, Ricci F, Focardi M, Cavigli L, Pastore MC, Sisti N, De Vivo O, Santoro C, Mondillo S, Cameli M. Novel Approaches in Cardiac Imaging for Non-invasive Assessment of Left Heart Myocardial Fibrosis. *Front Cardiovasc Med*. 2021 Apr 15;8:614235. doi: 10.3389/fcvm.2021.614235. eCollection 2021.

30. Vinciguerra M, Grigioni F, Romiti S, Benfari G, Rose D, Spadaccio C, Cimino S, De Bellis A, Greco E. Ischemic Mitral Regurgitation: A Multifaceted Syndrome with Evolving Therapies. *Biomedicines*. 2021 Apr 21;9(5):447.
31. Malagoli A, Rossi L, Zanni A, Sticozzi C, Piepoli MF, Benfari G Refining the Role of Left Atrial Strain in Heart Failure with Reduced Ejection Fraction. *J Am Soc Echocardiogr*. 2021 Jul;34(7):804-805. doi: 10.1016/j.echo.2021.02.010. Epub 2021 Mar 10.
32. Rossi A, Barbieri A, Benfari G, Gaibazzi N, Erlicher A, Mureddu G, Frattini S, Faden G, Manicardi M, Beraldi M, Agostini F, Lazzarini V, Moreo A, Luigi Temporelli P, Magni G, Pressman G, Faggiano P. Heart valve calcification and cardiac hemodynamics. *Echocardiography*. 2021 Apr;38(4):525-530. doi: 10.1111/echo.14994. Epub 2021 Mar 11.
33. Esposito R, Santoro C, Mandoli GE, Cuomo V, Sorrentino R, La Mura L, Pastore MC, Bandera F, D'Ascenzi F, Malagoli A, Benfari G, D'Andrea A, Cameli M. Cardiac Imaging in Anderson- Fabry Disease: Past, Present and Future. *J Clin Med*. 2021 May 6;10(9):1994. doi: 10.3390/jcm10091994.
34. Giovanni Benfari, Benjamin Essayagh , Stefano Nistri, Joseph Maalouf, Andrea Rossi , Prabin Thapa, Hector I. Michelena ,Maurice Enriquez-Sarano , MD Left Atrial Volumetric/Mechanical Coupling Index. A Novel Predictor of Outcome in Heart Failure With Reduced Ejection Fraction. *Circulation Cardiovascular Imaging*; published 19 Jan 2021.
35. Benfari G, Nistri S, Marin F, Cerrito LF, Maritan L, Tafciu E, Franzese I, Onorati F, Setti M, Pighi M, Rossi A, Ribichini FL. Excess Mortality Associated with Progression Rate in Asymptomatic Aortic Valve Stenosis. *J Am Soc Echocardiogr*. 2020 Nov 28;S0894-7317(20)30770-7. doi:10.1016/j.echo.2020.11.015.
36. Yang LT, Benfari G, Eleid M, Scott CG, Nkomo VT, Pellikka PA, Anavekar NS, Enriquez-Sarano M, Michelena HI. Contemporary differences between bicuspid and tricuspid aortic valve in chronic aortic regurgitation. *Heart*. 2020 Oct 27;heartjnl-2020-317466. doi: 10.1136/heartjnl-2020-317466. Online ahead of print.
37. Benfari G, Nistri S, Cerrito LF, Maritan L, Tafciu E, Setti M, Bursi F, Tadiello E, De Manna ND, Rossi A, Ribichini FL. Usefulness of the Right Parasternal Echocardiographic View to Improve the Hemodynamic Assessment After Valve Replacement for Aortic Stenosis. *Am J Cardiol*. 2020 Dec 3:S0002-9149(20)31290-X. doi: 10.1016/j.amjcard.2020.11.028.
38. G Benfari, M Setti MD , S Nistri, D Fanti, C Maffei, E Tafciu, M Pighi, MA Cicoira, FL Ribichini, A Rossi. Relevance of Functional Mitral Regurgitation in Aortic Valve Stenosis. *American Journal of Cardiology*. PII: S0002-9149(20)30954-1. DOI: <https://doi.org/10.1016/j.amjcard.2020.09.016>
39. Cerrito LF, Maffei C, Inciardi RM, Tafciu E, Benfari G, Bergamini C, Ribichini FL, Rossi A. How to incorporate left atrial strain in the diagnostic algorithm of left ventricular diastolic dysfunction. *Int J Cardiovasc Imaging*. 2020 Oct 31. doi: 10.1007/s10554-020-02070-6.
40. Tafciu E, Mandoli GE, Santoro C, Setti M, d'Andrea A, Esposito R, Bandera F, Evola V, Malagoli A, Cameli M, Benfari G; Working Group of Echocardiography of the Italian Society of Cardiology. The progression rate of aortic stenosis: key to tailoring the management and potential target for treatment. *J Cardiovasc Med (Hagerstown)*. 2020 Oct 29. doi: 0.2459/JCM.0000000000001126.
41. Cameli M, Miglioranza MH, Magne J, Mandoli GE, Benfari G, Ancona R, Sibilio G, Reskovic Luksic V, Dejan D, Griseli L, Van De Heyning CM, Mortelmans P, Michalski B, Kupczynska K, Di Giannuario G, Devito F, Dulgheru R, Ilardi F, Salustri A, Abushahba G, Morrone D, Fabiani I, Penicka M, Katbeh A, Sammarco G, Esposito R, Santoro C, Pastore MC, Comenale Pinto S, Kalinin A, Pičkure Ž, Ažman Juvan K, Zupan Mežnar A, Coisne A, Coppin A, Opris MM, Nistor DO, Paakkanen R, Biering-Sørensen T, Olsen FJ, Lapinskas T, Vaškelytė JJ, Galian-Gay L, Casas G, Motoc AI, Papadopoulos CH, Loizos S, Ágoston G, Szabó I, Hristova K, Tsonev SN, Galli E, Vinereanu D, Mihaila Baldea S, Muraru D, Mondillo S, Donal E, Galderisi M, Cosyns B, Edvardsen T, Popescu BA. Multicentric Atrial Strain COmparison between Two Different Modalities: MASCOT HIT Study. *Diagnostics*. 2020 Nov 13;10(11):946. doi: 10.3390/diagnostics10110946.
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44. Setti M, Benfari G, Mele D, Rossi A, Ballo P, Galderisi M, Henein M, Nistri S. Discrepancies in Assessing Diastolic Function in Pre-Clinical Heart Failure Using Different Algorithms-A Primary Care Study. *Diagnostics*. 2020 Oct 20;10(10):850. doi: 10.3390/diagnostics10100850.
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46. Barbieri A, Antonini-Canterin F, Pepi M, Monte IP, Trocino G, Barchitta A, Ciampi Q, Cresti A, Miceli S, Petrella L, Benedetto F, Zito C, Benfari G, Bursi F, Malagoli A, Bartolacelli Y, Mantovani F, Clavel MA. Discordant Echocardiographic Grading in Low Gradient Aortic Stenosis (DEGAS Study) From the Italian Society of Echocardiography and Cardiovascular Imaging Research Network: Rationale and Study Design. *J Cardiovasc Echogr*. 2020 Apr-Jun;30(2):52-
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48. Benjamin Essayagh, Clemence Antoine, Giovanni Benfari, Joseph Maalouf, Hector I. Michelena, Juan A. Crestanello, Prabin Thapa, Jean-Franc,ois Avierinos , and Maurice Enriquez-Sarano. Functional tricuspid regurgitation of degenerative mitral valve disease: a crucial determinant of survival. *European Heart Journal* (2020) 41, 1918–1929
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51. Caterina Maffei, Riccardo Maria Inciardi, Giovanni Benfari, Corinna Bergamini, Flavio Luciano Ribichini, Marian Antonietta Cicoira and Andrea Rossi. Mitral regurgitation and dyspnoea: the expanding role of mitral effective regurgitant orifice among un-selected patients. *J Cardiovasc Med* 2020, 21:503–509
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53. Riccardo M. Inciardi, Andrea Rossi, Corinna Bergamini, Giovanni Benfari, Caterina Maffei, Carmen Greco, Andrea Drago, Marco Guazzi, Flavio L. Ribichini, and Marian Antonietta Cicoira. Mitral regurgitation, left atrial structural and functional remodelling and the effect on pulmonary haemodynamics. *European Journal of Heart Failure* (2020) 22, 499–506
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When Used as Vascular Access for Percutaneous Coronary Procedures. *Circulation Cardiovascular intervention*, 2019;12:e008045.
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