

8. Literatur

1. Hunt SA. Expected clinical outcomes-risk factors for heart transplantation. In Norman DJ, Turka LA, eds. Primer on Transplantation. American Society of Transplantation, NY; 2001: 321-22
2. Hertz MI, Taylor OD, Trulock EP, Boucek MM, Mohacsi PJ, Leah BE, Berkeley M, Keck MPH. The Registry of the International Society for Heart and Lung Transplantation: Nineteenth Official Report – 2002
J Heart Lung Transplant 2002;21(9):945-50
3. Hosenpud JD. Expected clinical outcomes-risk factors for heart transplantation. In Norman DJ, Turka LA, eds. Primer on Transplantation. American Society of Transplantation, NY; 2001: 387-93
4. Hertz MI, Mohacsi PJ, Boucek MM, Taylor OD, Trulock EP, Deng MC, Rowe AW. The Registry of the International Society for Heart and Lung Transplantation: Past, Present and Future.
J Heart Lung Transplant 2002;21(9):945-50
5. McCarthy PM, Billingham ME, Flavin TF, Hunt SA, Stinson EB. Immunosuppression and Rejection. In: Smith JA, McCarthy PM, Sarris GE, Stinson EB, Reitz BA, eds. The Stanford Manual of Cardiopulmonary Transplantation, NY, Futura P.C.;1996:99-125
6. Knosalla C, Hummel M, Müller J, Grauhan O, Ewert R, Hetzer R. Diagnosis of heart graft rejection.
Current Opinion in Organ Transplantation 2000; 5:118-125
7. Perez-Trevino C, Diaz-Arauzo A, Lopez-Cuelar M, Jurado J. Endomyocardial Biopsy.
Gac Med Mex 1972;104:399-405
8. Caves P, Stinson E, Billingham M, Rider A, Shumway N. Diagnosis of human cardiac rejection by serial cardiac biopsy.
J Thorac Cardiovasc Surg 1973;66:461-66
9. Billingham ME. Diagnosis of cardiac rejection by endomyocardial biopsy.
Heart Transplant 1982;1:25
10. Spiegelhalter DJ, Stovin PGI. An analysis of repeated biopsies following cardiac transplantation. Stat Med 1982;2:33-40
11. Billingham ME, Cary NRB, Hammond EH et al. A working formulation for the standardization of nomenclature in diagnosis of heart and lung rejection: Heart Rejection Study Group.
J Heart Lung Transplant.1990;9:587-93
12. Constanzo-Nordin M, Winters G, Fisher S, O' Sullivan J, Heroux AL, Kao W. Endocardial infiltrates in the transplanted hearts: clinical significance emerging from analysis of 5026 endomyocardial biopsy specimen.
J Heart Lung Transplant 1993;12:741-47

13. Yamani MH, Randall C, Starling MD. Long-term management issues in heart transplantation.
In Norman DJ, Turka LA, eds. *Primer on Transplantation*. American Society of Transplantation, NY; 2001: 375-81
14. Gradek WQ, Amico CD, Smith AL, Vega D, Book WM.
Routine Surveillance Endomyocardial Biopsies Continues to detect Significant Rejection Late after Heart Transplantation.
J Heart Lung Transplant 2001;20(5):497-502
15. Scheld HH, Deng MC, Hammel D. Herzmuskelbiopsie
Scheld HH, Deng MC, Hammel D. eds. *Leitfaden Herztransplantation*
Steinkopff Verlag, Darmstadt. 1997:119-22
16. Zerbe TR, Arena V. Diagnostic reliability of endomyocardial biopsies for assessment of cardiac allograft rejection.
Hum Pathol. 1988; 19:1307-17
17. Gayle L, Winters MD. The challenge of endomyocardial biopsy interpretation in assessing cardiac allograft rejection.
Current Opinion in Cardiology. 1997;12:146-52.
18. Nielson H, Sorensen F, Nielson B, Bagger JP, Thaysse P, Baandrup U.,
Reproducibility of the Acute Rejection Diagnosis in Human Cardiac Allograft: The Stanford Classification and the International Grading System
J Heart Lung Transplant 1993;12:239-43
19. Ventura HO, Muhamed K. Histological perspectives on cardiac transplantation: the past as prologue to challenges for the 21st century.
Curr Opin Cardiol 2001;16:118-23
20. Taylor DO, Yowell RL, Kfoury AG et al. Allograft coronary artery disease: Correlations with circulating anti-HLA antibodies and the immunohistopathologic pattern of vascular rejection.
J Heart Lung Transplant. 2000;19(6):518-21
21. Ballester M, Bordes R., Tazelaar HD. Evaluation of biopsy classification for rejection: Relation to detection of myocardial damage by monoclonal antimyosin antibody imaging.
J Am Coll Cardiol. 1998;31:1357-61
22. Hammond EH, Yowell RL, Nunoda S et al. Vascular (humoral) rejection in heart transplantation: Pathologic observations and clinical implications.
J Heart Transplant 1989;8:430-43
23. Michaels PJ, Espejo ML, Kobashigawa J, Alechos JC, Burch C, Takemoto S, Reed EF, Fishbein MC. Humoral rejection in cardiac transplantation: risk factors, hemodynamic consequences and relationship to transplant coronary artery disease.
J Heart Transplant 2003;2(1):58-69.

24. Fishbein MC. Pathologic Findings of cardiac Dysfunction.
In Norman DJ, Turka LA, eds. Primer on Transplantation. American Society of Transplantation, NY; 2001: 370-74
25. Hausen B, Rohde R, Demertzis S et al. Strategies for routine biopsies in heart transplantation based on 8-year results with more than 13,000 biopsies.
Eur J Cardiothorac Surg. 1995 ;9 :592-98
26. Warnecke H, Müller J, Cohnert T et al. Clinical heart transplantation without routine endomyocardial biopsy.
J Heart Lung Transplant.1992;11(6):1093-102
27. Müller J, Eubel A, Dandel M, Hummel M, Hetzer R. Non-invasive monitoring of rejection after cardiac transplantation. The method and retrospective analysis of data on 734 patients
Deut Med Wochenschr 2001;126(44):1223-8
28. White JA, Guiraudon C, Pflugfelder PW, Kostuk WJ. Routine surveillance myocardial biopsies are unnecessary beyond one year after heart transplantation. J Heart Lung Transplant.1995;14:1052-56
29. Leonnard HC, O'Sullivan JJ; Dark HJ. Long-term follow-up of pediatric cardiac transplant recipients on a steroid-free regime: The role of endomyocardial biopsy.
J Heart Lung Transplant.2000;19(5):469-72
30. Kertesz NJ, Denfield SW, Kearney DL, Towbin JA, Price JK, Gajarski RJ.
Usefulness of routine surveillance biopsies in children more than one year after orthotopic heart transplantation.
Am J Cardiol 2001;87(5):667-68
31. Baraldi-Junkins C, Levin HR, Kasper EK, Rayburn BK, Herskowitz A, Baughman KL
Complications of endomyocardial biopsy in heart transplant patients.
J Heart Lung Transplant.1993;12:63-67
32. Hunt SA, Schroeder JS, Berry GJ et al. Cardiac Transplantation, Mechanical Ventricular Support and Endomyocardial Biopsy. In: Alexander RW, Schlant RC, Fuster V, eds. Hurst's The Heart, McGraw-Hill;1998:799-821
33. Bravermann AC, Coplen SE, Mudge GH, Lee RT.
Ruptured chordae tendinae of the tricuspid valve as a complication of endomyocardial biopsy in heart transplant patients.
Am J Cardiol 1990; 66:111-113
34. Williams MJA, Lee MY, DiSalvo TG, Dec W, Picard MH, Palacios IF et al.
Biopsy-induced flail tricuspid leaflet and tricuspid regurgitation following orthotopic heart transplantation.
Am J Cardiol 1996;77:1339-1344
35. Boucec MM, Faro A, Novick R, Leah E, Bennett E, Berkeley M, Hosenpud JD.
The Registry of the International Society for Heart and Lung Transplantation: Fourth Official Pediatric Report – 2000
J Heart Lung Transplant.2001;20(1):39-52

36. Zales VR, Crawford S, Backer CL, Pahl E, Webb CL, Benson DW, Jr.
Role of endomyocardial biopsy in rejection surveillance after heart transplantation in neonates and children.
J Am Coll Cardiol 1994;23:766-71
37. Kuhn M, Deming DD, Cephus CE, Mulla NF, Chinock RE, Razzouk AJ, Larsen RL.
Moderate acute rejection detected during annual catheterization in pediatric heart transplant recipients.
J Heart Lung Transplant.2003;22(3):276-80
38. Addonizio LJ.
Special considerations in pediatric heart transplantation.
In Norman DJ, Turka LA, eds. Primer on Transplantation. American Society of Transplantation, NY; 2001: 394-402
39. Keren A, Gillis AM, Freedmann RA, Baldwin JC, Billingham ME, Stinson EB, et al.
Heart transplant rejection monitored by signal-averaged electrocardiography in patients receiving cyclosporine.
Circulation 1984; 70 (Suppl.1):124-129
40. Auer T, Schreier G, Hutten H. et al. Paced epimyocardial electrograms for non-invasive rejection monitoring after heart transplantation.
J Heart Lung Transplant.1996;15:993-98
41. Grasser B, Iberer F, Schreier G, Schaffelner S, Kleinert R, Prenner G, Kastner P. et al.
Non-invasive cardiac allograft monitoring: The Graz experience.
J Heart Lung Transplant.2000;19(7):553-69
42. Desruennes M, Corcos T, Cabrol A, et al. Doppler echocardiography for the diagnosis of acute cardiac allograft rejection.
J Am Coll Cardiol 1988;12:63-70
43. Ciliberto GR, Cataldo G, Cipriani M, Mascarello M, Faletta F, Gronda E, De Maria R; Mauri L, Pezzano A. Echocardiographic assessment of cardiac allograft rejection.
European Heart J 1989;10:400-408
44. Störk T, Walkowiak T, Siniawski H, Danne O, Müller R, Möckel M, Eichstädt H, Hetzer R, Hochrein H. Nichtinvasive Erfassung der akuten Abstoßungsreaktion nach Herztransplantation mittels Doppler- und M-Mode-Echokardiographie: Vorläufige Ergebnisse einer prospektiven Studie.
Z Kardiologie 1990;79:758-65
45. Störk T, Danne O, Möckel M, Eichstädt H, Walkowiak T, Siniawski H, Müller R, Hetzer R, Hochrein H. Noninvasive diagnosis of cardiac allograft rejection by means of pulsed Doppler and M-mode ultrasound.
J Ultrasound Med 1991;10:569-75
46. Hsu DT, Spotnitz HM. Echocardiographic diagnosis of allograft rejection
Progress in Cardiovascular Diseases. 1990; Vol. XXXIII (Nov./Dec.):149-60

47. Derumeaux G, Mouton-Schleifer D, Redonnet M. et al. Blood flow in the isovolumetric relaxation phase in heart transplant patients: its use in the non-invasive diagnosis of rejection. *Arch Mal Cœur Vaiss* 1998 ;91(6) :731-38
48. Dodd DA, Brady LD, Carden KA, et al. Pattern of echocardiographic abnormalities with acute cardiac allograft rejection adults: Correlation with endomyocardial biopsy. *J Heart Lung Transplant.*1993;12:1009-18
49. Cilibero GR, Mascarello M, Gonda E, et al. Acute rejection after heart transplantation: Noninvasive echocardiographic evaluation. *J Am Coll Cardiol* 1994;23:1156-60
50. Boyd SY, Mego DM, Khan NA, Rubal BJ, Gilbert TM. Doppler echocardiography in cardiac transplant patients: allograft rejection and its relationship to diastolic function. *Am J Echocardiogr.*1997;10(5):526-31
51. Fauchier L, Sirinelli A, Aupart M, Neville P, Babuty D, Pottier JM, Marchand M. Echocardiographic Doppler study of left ventricular filling in the diagnosis of minimal or moderate rejection in cardiac transplantation. *Arch Mal Cœur Vaiss* 1998 ; 90(12) :1623-28
52. Mankad S, Murali S, Kormos RL, Mandarino WA, Gorrcsan J. Evaluation of the potential role of color-coded tissue Doppler echocardiography for the diagnosis of allograft rejection in heart transplant recipients. *Am Heart J.* 1999;138(4 Pt 1):721-30
53. Moran AM, Lipshultz SE, Rifai N, O'Brien P, Mooney H, Perry S, Perez-Atayde A, Lipsitz SR, Colan SD. Non-invasive assessment of rejection in pediatric transplant patients: serologic and echocardiographic prediction of biopsy-proven myocardial rejection. *J Heart Lung Transplant.*2000;19(8):756-64
54. Valantine AH, Yeoh KT, Gibbons R, McCarty P, Stinson EB, Billingham ME, Popp RL. Sensitivity and specificity of diastolic indexes for rejection surveillance: Temporal correlation with endomyocardial biopsy. *J Heart Lung Transplant* 1991;10:757-65
55. Nowygrog R, Spotnitz HM, Dubroff JM et al. Organ mass: an indicator of heart transplant rejection. *Transplant Proc* 1983;15:1225-28
56. Hauptmann PJ, Glass A, Goldmann ME, The role of echocardiography in heart transplantation *J Am Soc Echocardiogr* 1993;6:496-509
57. Valantine HA, Schnittger I. The role of echocardiography in the evaluation of patients after heart transplantation. In Otto CM. Ed. *The Practice of Clinical Echocardiography (Second Edition)*, W.B. Saunders Company, Philadelphia, 2002:658-78
58. Masuyama T, Valantine HA, Gibbons R, et al. Serial measurement of integrated backscatter in human cardiac allografts for recognition of acute rejection. *Circulation* 1990;81:829-39

59. Lieback E, Meyer R, Nowrocki M, Bellach J, Hetzer R. Noninvasive diagnosis of cardiac rejection through echocardiographic tissue characterization.
Ann Thor Surg 1994, 57:1164-70
60. Angermann CE, Nassau K, Stempfle HU, et al.: recognition of acute allograft rejection from serial integrated backscatter analyses in human orthotopic heart transplant recipients. Comparison with conventional echocardiography.
Circulation 1997;95(1):140-150
61. Ertel W, Reichenspurner H, Lerch CC, Plahl M, Lehmann M, Kemkes BM, et al. Cytoimmunologic monitoring in acute rejection and viral, bacterial or fungal infection following transplantation.
J Heart Transplant.1985;4:390-94
62. Fieguth HG, Haverich A, Schafers H-J, et al. Cytoimmunologic monitoring for the noninvasive diagnosis of cardiac rejection.
Transplant Proc 1987;19:2541-42
63. May RM, Cooper DKC, Du Toit ED, Riechard B. Cytoimmunologic monitoring after heart and heart-lung transplantation
J Heart Transplant.1990;9:133-35
64. Roodman ST, Miller LW, Tsai CC. Role of interleukin 2 receptors in immunologic monitoring following cardiac transplantation.
Transplantation 1988,45:1050-56
65. Young JB, Windsor NT, Smart FW, et al. Inability of isolated soluble interleukin-2 receptor levels to predict biopsy rejection scores after heart transplantation.
Transplantation 1991 ;51 :636-41
66. Marie PY, Angioni M, Corteux JP, Escanye JM, Mattei S, et al. Detection and prediction of acute heart transplant rejection with the myocardial T2 determination provided by a black-blood magnetic resonance imaging.
J Am Coll Cardiol 2001; 37(3):825-31
67. Zimmermann DTJ, Braun K, Müller-Bardorff M, Zehelein J, Sack FU, Schnabel PA, Kubler W, Katus HA. Elevated serum concentrations of cardiac troponin T in acute allograft rejection after human heart transplantation.
J Am Coll Cardiol 1998;32(2):405-12
68. Wahlander H, Kjellstrom C, Holgren D. Sustained elevated concentrations of cardiac troponin T during acute allograft rejection after heart transplantation in children.
Transplantation 2002;74(8):1120-35
69. Segal CJJ, Wallerson G, Kasper E, Hruban RH, Kickler T, Chan DW. Cardiac Troponin T and C reactive Protein as markers of acute rejection
Clin Chim Acta 2001;12(1-2):31-39
70. Anderson JR, Hossein-Nia M, Brown PA, Corbiseley C, Murday AJ, et al. Creatine kinase MB isoforms: A potential predictor of acute cardiac allograft rejection.
J Heart Transplant 1995;14(4):666-7

71. Meneguetti JC, Camargo EE, Soares Jr. J, et al. Gallium-67 imaging in human heart transplantation. Correlation with myocardial biopsy.
J Heart Transplant 1987;6:171-76
72. Yamamoto S, Bergsland J, Michalek SM, Carrol M, Gona JM, Balu D, Carr EA Jr. Uptake of myocardial imaging agents by rejecting and nonrejecting cardiac transplants: a comparative clinical study of thallium-201, technetium-99m, and gallium-67.
J Nucl Med 1989;30:1464-69
73. Alivizatos PA, Rose ML, Aikenhead J, Pomerance A, Chisholm PM, Yacoub MH.
Migration of In-111 labeled autologous leukocytes to the grafts of heart transplant patients.
Transplant Proc 1985 ;17 :614-615
74. Frist W, Yasuda T, Segal G, et al. Noninvasive detection of human cardiac transplant rejection with indium-111antimyosin (Fab) imaging.
Circulation 1987;76:81-85
75. Schuetz A, Fritsch S, Kemkes MB, Kugler C, Angermann C, et al. Antimyosin monoclonal antibodies for early detection of cardiac allograft rejection.
J Heart Transplant 1990; 9(6):654-61
76. Haberl R, Weber M, Reichenspurner H et al. Frequency analysis of the surface electrocardiogram for recognition of acute rejection after orthotopic cardiac transplantation in man.
Circulation 1987;76:101-8
77. Avitall B, Payne D, Connolly R, et al. Heterotopic heart transplantation: Electrophysiologic changes during acute rejection.
J Heart Transplant 1988;7:176-82
78. Rosenbloom M, Laschinger JC, Saffitz JE, Cox JL, Bolmann RM. Noninvasive detection of cardiac allograft rejection by analysis of the unipolar peak-to-peak amplitude of intramyocardial electrograms.
Ann Thorac Surg 1989; 47:407-11
79. Koike K, Hesslein P, Dasmahapatra H, et al. Telemetric detection of cardiac allograft rejection. Correlation of electrophysiological, histological and biochemical changes during unmodified rejection.
Circulation 1988;78:1106-112
80. Pirolo JS, Shuman TS, Brunt EM, Liptay MJ, Cox JL, Ferguson TB. Noninvasive detection of cardiac allograft rejection by prospective telemetric monitoring.
J Thoracic Cardiovasc Surg 1992;103:969-79
81. Grasser B, Iberer F, Schreier G, et al. Intramyocardial electrogram variability in the monitoring of graft rejection after heart transplantation.
Pace 1998;21:2345-49
82. Grauhan O, Schnalke F, Müller J, et al. Elektrophysiologische Veränderungen an Kardiomyozyten bei Abstoßung nach Herztransplantation.
Transplantationsmedizin 1998;19:79-84

83. Müller J, Kaufmann F, Dandel M, Grauhan O, Wenig YG, Pasic M, Kalanaki K, Bettmann M, Kapell S, Hummel M, Hetzer R. Transtelephonic monitoring: Reliable non-invasive rejection monitoring after heart transplantation by an implantable multisensor device. XIX International Congress of the Transplantation Society, Miami, USA Aug. 25-30, 2002
Transplantation 2002, 74(4):175
84. Schroeder JS, Popp RL, Stinson EB, Dong E, Shumway NE, Harrison DC. Acute rejection following cardiac transplantation: Phonocardiographic and ultrasound observations.
Circulation 1969; 30:155-164
85. Sagar KB, Hastillo A, Wolfgang TC, et al. Left ventricular mass by M-mode echocardiography in cardiac transplant patients and acute rejection.
Circulation 1981;64(Suppl II):216-20
86. Dubroff JM, Clark MB, Wong CYH, et al. Changes of left ventricular mass associated with the onset of acute rejection after cardiac transplantation.
J Heart Transplant 1984;3:105-109
87. Valantine HA, Hunt SA, Billingham ME, et al. Increasing pericardial effusion in cardiac transplant recipients.
Circulation 1989;79:603-609
88. Paulsen W, Magid N, Sagar K, et al. Left ventricular function of heart allografts during acute rejection: An echocardiographic assessment.
J Heart Transplant 1985;4:525-29
89. Angermann CE, Spes CH, Hart RJ, Kemkes BM, Gokel MJ, Theisen K. Echokardiographische Diagnose akuter Abstoßungsreaktionen bei herztransplantierten Patienten unter Cyclosporintherapie.
Z Kardiol 1989;78:243-52
90. Park J-W, Urbanczyk M, Schüler S, Warnecke H, Hetzer R, Fleck E. Nutzen eines nichtinvasiven Parameters der frühdiastolischen Ventrikelfunktion zur Erkennung einer Abstoßungsreaktion nach Herztransplantation
Z Kardiol 1989; 78:668-73
91. Amende I, Simon R, Seegers A, Daniel W, Heublein B, Hetzer R, et al. Diastolic dysfunction during acute cardiac allograft rejection.
Circulation 1990;81(Suppl III): 66-70
92. Mannaerts HFJ, Balk AHM, Simons ML, Tijssen J, van der Borden SG, Zondervan P, Sutherland GR, Roeland JRT. Changes in left ventricular function and wall thickness in heart transplant recipients and their relation to acute rejection: an assessment by digitised M-mode echocardiography.
Br Heart J 1992;68:356-64
93. Valantine H, Fowler M, Hunt S, Billingham E, Stinson E, Popp R. Doppler echocardiographic indices of diastolic function as makers of acute cardiac rejection.
Transplantation Proceedings 1987;19:2556-59

94. Valantine H, Fowler M, Hunt S, Naasz C, Hatle LK, Billingham E, Stinson E, Popp R. Changes in Doppler echocardiographic indexes of left ventricular function as potential markers of acute cardiac rejection
Circulation 1987;76(Suppl V):86-92
95. Gibbons RS. Doppler echocardiography for rejection surveillance in the cardiac allograft recipient.
J Am Soc Echo 1991;4:97-104
96. Valantine HA. Rejection surveillance by Doppler echocardiography.
J Heart Transplant 1993;12:422-26
97. Mannerts HF, Simoons ML, Balk AH, Tijssen J, van der Borden SG, et al. Pulsed-wave transmitral Doppler do not diagnose moderate acute rejection after heart transplantation.
J Heart Transplant 1993;12:411-21
98. Spes CH, Schnaak SD, Schütz JM, Gokel JM, Kemkes BM, Theisen K, Angermann CE. Serial Doppler echocardiographic assessment of left ventricular and right ventricular filling for non-invasive diagnosis of mild acute cardiac allograft rejection
European Heart Journal 1992;13:889-04
99. Mouli-Bandini A, Vion-Dury J, Viout P, Mesana T, Cozzone PJ, Monties JR. Value of Doppler echocardiography in the detection of low grade rejections after heart transplantation
Transpl Int 1996 ;9 :131-36
100. Vivekananthan K, Kalapura T, Mehra M, Lavie C, Milani R, et al. Usefulness of the combined index of systolic and diastolic myocardial performance to identify cardiac allograft rejection
Am J Cardiol 2002;90(%):517-20
101. Moidl R, Chertchik O, Simon P, et al. Noninvasive monitoring of peak filling rate with acoustic quantification echocardiography accurately detects acute cardiac allograft rejection.
J Heart Lung Transplant 1999;18(3):194-201
102. Bosch HG, Reiber JHC. Two-dimensional echocardiographic digital image processing and approaches to endocardial edge detection.
In Otto CM. ed. The Practice of Clinical Echocardiography (Second Edition), W.B. Saunders Company, Philadelphia, 2002:141-58
103. Kemkes B, Schütz A, Engelhardt M, Brandl U Breuer M. Noninvasive methods of rejection diagnosis after heart transplantation
J Heart Tranplant 1992;11(Suppl):221-31
104. Rubin LA, Kurmann CC, Fritz ME, et al. Soluble interleukin-2-receptors are released from activated human lymphoid cells in vitro.
J Immunol 1985;135:3172
105. Hammer C, Rechenspurber H, Ertel W. Cytological and immunological monitoring of cyclosporine-treated human heart recipients.
J Heart Tranplant 1984;3:228-32

106. Klanke D, Hammer C, Svchubel C, Caca C, Dirschedl P, et al. Reproducibility and reliability of cytoimmunological monitoring (CIM) of heart transplant patients (HTP). *Transplant Proc* 1989; 21:2512-13
107. Miller RW, Roodmann ST, Tsai C et al. immune monitoring of interleukin-2 receptors (IL2R) in heart transplantation. *J Heart Transplant* 1986;5:377
108. Hoshinaga K, Hohanakumar T, Pascoe EA, et al. Expression of transferin receptors on lymphocytes: its correlation with T-helper/T-suppressor cytotoxic ratio and rejection in heart transplant recipients. *J Heart Transplant* 1988;7:198-204
109. Hall TS, Baumgartner WA, Borkom AM. Diagnosis of acute cardiac rejection with antimyosin monoclonal antibody, phosphorous nuclear magnetic resonance imaging, two-dimensional echocardiography, and endomyocardial biopsy. *J Heart Transplant* 1986;5:419-24
110. Ballester M, Obrador D, Carrio I, Auge JM, Moya C, et al. Indium-111-monoclonal anti-myosin antibody studies after the first year of heart transplantation. Identification of risk groups for developing rejection during long-term follow-up and clinical implications. *Circulation* 1990;82:2100-107
111. Doornbos J, Verwey H, Essed CE, Balk AH, de Roos A. MR imaging of cardiac transplant rejection in humans. *J Comput Assist Tomogr* 1990;14(1):77-81
112. Walpoth BH, Muller MF, Celik B, Nicolaus B, Walpoth N, et al. Assessment of cardiac rejection by MR-imaging and MR-spectroscopy *Eur J Cardiothoracic Surg* 1998;14(4):426-30
113. Johansson L, Johnson C, Penno E, Bjornerud A, Ahlstrom H. Acute cardiac transplant rejection: detection and grading with MR imaging with a blood pool contrast agent-experimental study in the rat. *Radiology* 2002;225(1):97-103
114. Buchthal SD, Noureux TO, den Hollander JA, Bourge RC, Kirklin JK et al. ³¹P-magnetic resonance spectroscopy studies of cardiac transplant patients at rest. *J Cardiovasc Magn Reson* 2002;2(1):51-56
115. Walpoth BH, Celik B, Printzen G, Peheim E, Colombo JP, et al. Assessment of troponin-T for detection of clinical cardiac rejection. *Transpl Int* 1998;11(Suppl1): S502-7
116. Chance JJ, Segal JB, Wallerson G, Kasper E, Hruban RH, et al. Cardiac troponin T and C-reactive proteins as markers of acute cardiac allograft rejection. *Clin Chim acta* 2001;312(1-2):31-39
117. Gleissner CA, Klingenberg R, Nottmeyer W, Zipfel S, Sack FU, Schnabel PA, Haas M, Dengler TJ. Diagnostic efficiency of rejection monitoring after heart transplantation with cardiac Troponin T is improved in specific patient subgroups. *Clin Transplant* 2003 17(3):284-91

118. Mullen JC, Bentley MJ, Scherr KD, Chorney SG, Burton NI et al. Troponin T and I are not reliable markers of cardiac transplant rejection.
Eur J Cardiothorac Surg 2002;22(2):233-37
119. Siaplaouras J, Thul J, Kramer U, Bauer J, Schranz D. Cardiac troponin I : a marker of acute heart rejection in infant and child heart recipients.
Pediatr Transplant 2003;7(1):43-5
120. Masters RG, Davies RA, Veinot JP, Hendry PJ, Smith SJ, de Bold AJ. Discoordinate modulation of natriuretic peptides during acute cardiac rejection in humans.
Circulation 1999;100:287-91
121. Margreiter R, Fuchs D, Hausen A et al. Neopterin as a new biochemical marker for diagnosis of allograft rejection.
Transplantation 1983;36:650-53
122. Womble JR, Larson DF, Copeland JG, Russel DH. Urinary polyamine levels are markers of altered T lymphocyte proliferation/loss and rejection in heart transplant recipients.
Transplant Proc 1984;16:1573-75
123. Carrier M, Russel DH, Wild JC. et al. Prolactin as marker of rejection in heart transplant recipients. J Heart Transplant 1987;6:290-92
124. Hunt SA, Schroeder JS, Berry GJ, Billingham ME. Cardiac Transplantation, Mechanical Ventricular Support and Endomyocardial Biopsy.
In: Alexander RW, Schlant RC, Fuster V, eds. Hurst's The Heart, McGraw-Hill; 1998:799-821
125. Gao SZ, Schroeder JS, Alderman EL, Hunt SA, Silverman JF, Wiederhold V et al. Clinical and laboratory correlates of accelerated coronary disease in the cardiac transplant patient.
Circulation 1987; 76(suppl V):56-61
126. Uretsky BF, Murali S, Reddy PS, Rabin B, Lee A, Griffith BP et al. Development of coronary artery disease in cardiac transplant patients receiving immunosuppressive therapy with cyclosporine and prednisolone.
Circulation 1987; 76:827-834.
127. Gao SZ, Schroeder JS, Alderman EL, Hunt SA, Valentine HA, Wiederhold V, Stinson EB. Prevalence of accelerated coronary artery disease in heart transplant survivors: comparison of Cyclosporine and azathioprine regimes.
Circulation 1989; 89(Suppl III):100-105
128. Constanzo MR, Naftel DC, Pritzker MR, Hellman JK, Boehmer JP, Brozena SC, Dec WG, Ventura HO, Kirklin JK, Bourge RC, Miller LW. Heart transplant coronary artery disease detected by angiography: a multi-institutional study.
J Heart Lung Transplant 1996;15:S39
129. Dressler FA, Miller LW. Necropsy versus angiography: How accurate is angiography?
J Heart Lung Transplant 1992; 11(part 2):S56-S59

130. Steven EN, Tuzku EM. Coronary intravascular ultrasound. In: Alexander RW, Schlant RC, Fuster V, eds. *Hurst's The Heart*, McGraw-Hill;1998:1457-1472
131. StGoar FG, Pinto JF, Aldermann EL, Valantine HA, Schroeder JS, Gao SZ, Stinson EB, et al. Intracoronary ultrasound in cardiac transplant recipients: in vivo evidence of "angiologically silent" intimal thickening. *Circulation*.1992;85:979-87.
132. Tuzcu EM, DeFranco AC, Goormastic M, Hobbs RE, Bott-Silverman C, Nissen SE, et al. Dichotomous pattern of coronary atherosclerosis 1 to 9 years after transplantation: Insights from systematic intravascular ultrasound imaging. *J Am Coll Cardiol* 1996; 27:839-846
133. Yeung AC, Davis SF, Hauptmann PJ, Kobashigawa JA, Miller LW, Valantine HA, Ventura HO, Wiedemann J, Wilensky R. Incidence and progression of transplant coronary artery disease over 1-year: results of a multicenter trial with use of intravascular ultrasound. *J Heart Lung Transplant* 1995; 14:S215-20
134. Kapadia SR, Nissen SE, Ziada KM, Rincon G, Crowe TD, Boparai N, Young JB, Tuzcu EM. Impact of lipid abnormalities in development and progression of transplant coronary Artery disease: a serial intravascular ultrasound study. *Am J Coll Cardiol* 2001;38(1):206-13
135. Tuzcu EM, Hobbs RE, Rincon G, Bott-Silvermann C, de Franco AC ed al. Occult and frequent transmission of atherosclerotic coronary disease with cardiac transplantation: insights from intravascular ultrasound. *Circulation* 1995;91:1706-13
136. Grauhan O, Patzurek J, Hummel M, Lehmkuhl H, Dandel M. Pasic M, Wenig Y, Hetzer R. Donor-transmitted coronary atherosclerosis *J Heart Lung Transplant* 2003; 22(5):868-73
137. Klauss V, Henneke KH, Rieber J, Spes C, Meiser B. et al. Prospective study of the frequency and extend of donor transmitted coronary disease after heart transplantation by intravascular ultrasound. *Dtsch Med Wochenschr* 1997;122(41):1235-41
138. Wong CK, Yeung AC. The topography of intimal thickening and associated remodelling pattern of early tranplant coronary disease: Influence of pre-existent donor atherosclerosis *J Heart Lung Transplant* 2001; 20(8):858-64
139. Kapadia RS, Nissen SE, Ziada KM, Guetta V, Crowe TD, Hobbs ER, Starling RC et al. Development of transplantation vasculopathy and progression of donor-transmitted atherosclerosis. Comparison by serial intravascular ultrasound imaging. *Circulation* 1998;98:2672-78
140. Keogh AM, Valantine HA, Hunt SA, Schroeder JS, McIntosh N, Oyer PE, et al. Impact of proximal or midvessel discrete coronary artery stenosis on survival after heart transplantation. *J Heart Lung Transplant* 1992; 11:892-901.

141. Hammond EH, Yowell RI, Price GD, Merilove MR, Olsen SL, O'Connell JB, et al. Vascular rejection of human cardiac allografts and the role of humoral immunity in chronic allograft rejection. *Transplant Proc* 1991; 23(suppl 2):26-30
142. Halle AA, DiSciascio G, Massin EK, Wilson RF, Johnson MR, Sullivan HJ et al. Coronary angioplasty, atherectomy and bypass surgery in cardiac transplant recipients. *J Am Coll Cardiol* 1995; 26:120-128
143. Ensley RD, Hunt S, Taylor DO, Renlund DG, Menlove RL, Karwande SV, et al. Predictors of survival after repeat heart transplantation. *J Heart Lung Transplant* 1992; 11:S142-S152
144. Uretsky BF, Kormos RL, Zerbe TR, Lee A, Tokarczyk TR, Murali S et al. Cardiac events after heart transplantation: Incidence and predictive value of coronary angiography. *J Heart Lung Transplant* 1992; 11:S45-S50
145. Akosah KO, McDaniel S, Hanrahan JS, Mohanty PK. Dobutamine stress echocardiography after heart transplantation predicts development of allograft coronary artery disease and outcome. *J Am Coll Cardiol*.1998;31(7):1607-14
146. Ludman PF, Lazem F, Barbir M, Yacub M. Incidence and clinical relevance of coronary calcification detected by electron beam computed tomography in heart transplant recipients. *Eur Heart J*.1999;20(4):303-08
147. Allen-Auerbach M, Schoder H, Johnson J, Kofoed K, Einhorn K, Phelps ME, et al. Relationship between coronary function by positron emission tomography and temporal changes in morphology by intravascular ultrasound (IVUS) in transplant recipients. *J Heart Lung Transplant*.1999;18(3):211-19
148. Gao SZ, Aldermann EL, Schroeder JS, Silverman JF, Hunt SA. Accelerated coronary vascular disease in the heart transplant patient: Coronary angiographic findings. *J Am Coll Cardiol*.1988;12:334-40
149. Keogh AM, Smith JA, Sarris GE, Hunt SA, Miller J. Follow-up, late problems and results of cardiac transplantation. In: Smith JA, McCarthy PM, Sarris GE, Stinson EB, Reitz BA, eds. *The Stanford Manual of Cardiopulmonary Transplantation*, NY, Futura P.C.;1996:151-8
150. Schroeder JS, Gao SZ, Hunt SA, Stinson EB. Accelerated graft coronary artery disease: diagnosis and prevention *J Heart Lung Transplant*.1992;11(4):258-65
151. Aranda JM, Hill J. Cardiac Transplant Vasculopathy *Chest* 2000; 118:1792-1800
152. Brodaty D, Bonnet N, de Lentdecker P, Francoual M, Dubois C, Bachet J, Goudot B, Dreyfus G, Guilmet D. A prospective comparative study of coronary angiography and endo coronary ultrasonography in the detection of coronary lesions after cardiac transplantation *Arch Mal Coer Vaiss* 1998;91(2):225-30

153. Johnson DE, Aldermann EL, Schoeder JS, Silvermann JF, Hunt SA et al. Transplant coronary artery disease: histopathological correlations with angiographic morphology. *J Am Coll Cardiol* 1991;17:449-457
154. Weis M, Scheidt W. Cardiac Allograft Vasculopathy. *Circulation* 1997;96:2069-77
155. Mills RM, Hill JA, Theron HD et al. Serial quantitative coronary angiography in the assessment of coronary disease in the transplanted heart. *J Heart Lung Transplant.*1992;11:S52-S55
156. Everett JP, Hershberger RE, Ratkovec RM, Norman DJ, Cobanoglu Ott GY, Hosenpud JD. The specificity of normal qualitative angiography in excluding cardiac vasculopathy. *J Heart Lung Transplant.*1994;13(1):142-48
157. Young JB, Smart FM, Lowry RL, Kleiman NS. Coronary angiography after heart transplantation: should perioperative study be the „gold standard“? *J Heart Lung Transplant.*1992;11(3):65-68
158. Schroeder JS, Gao S, Hunt SA, Stinson EB, Accelerated graft coronary artery disease: Diagnosis and prevention *J Heart Lung Transplant* 1992;11(4 Pt 2):S258-66
159. Dixon SR, Ruygrok PN, Agnew TM, Lund M, Aldersley PF. et al. Cardiac allograft vasculopathy: the Green Lane Hospital experience 1987-1998. *NZ Med J* 1999;112:417-20
160. Balk AH, Simoons ML, vd Linden MJ, de Feyter PJ, Mochtar B, Weimar B, Bos E. Coronary artery disease after heart transplantation: timing of coronary arteriopathy. *J Heart Lung Transplant.*1993;12(1):89-99
161. Clague JR, Cox ID, Murday AJ, Charokopos N, Madden BP. Low clinical utility of routine angiographic surveillance in the detection and management of cardiac allograft vasculopathy in transplant recipients. *Clin Cardiol* 2001 24(6):459-62
162. Dressler FA, Miller LW. Necropsy versus Angiography: How accurate is angiography? *J Heart Lung Transplant.*1992;11(3):S56-S59
163. Valentine H, Pinto FJ, St.Goar F, Alderman EL, Popp RL. Intracoronary ultrasound imaging in heart transplant recipients: the Stanford experience. *J Heart Lung Transplant.*1992;11(3):S60-S64
164. Scheld HH, Deng MC, Hammel D. Langzeitkomplikationen/Nachsorge
Scheld HH, Deng MC, Hammel D. eds. Leitfaden Herztransplantation
Steinkopff Verlag, Darmstadt. 1997:173-86
165. Wellnhofer E, Bocksch W, Hiemann N, Dandel M, Klimek W, Hetzer R, Fleck E. Shear stress and vascular remodeling: Study of cardiac coronary artery disease as a model of diffuse atherosclerosis. *Transplantation* 2002;:216-219

166. Ventura HO, Ramee SR, Jain A. Coronary artery imaging with intravascular ultrasound in patients following cardiac transplantation.
Transplantation 1992;53:216-219
167. Spes CH, Klauss V, Mudra H et al. Diagnostic and prognostic value of serial dobutamine stress echocardiography for noninvasive assessment of cardiac vasculopathy: a comparison with coronary angiography and intravascular ultrasound.
Circulation 1999;100:509-15
168. St Goar FG, Pinto FJ, Aldermann EL et al. Intracoronary ultrasound in cardiac transplant recipients: In vivo evidence of “angiographically silent” intimal thickening.
Circulation 1992;85:979-87
169. Pinto FJ, Chenzbraun A, Chenzbraun A, Botas J, Valentine HA, StGoar FG, Alderman EL, Oesterle SN, Schroeder JS, Popp RL. Feasibility of serial intracoronary ultrasound imaging for assessment of progression of intimal proliferation in cardiac transplant recipients.
Circulation 1995; 92(11):3363-64
170. Schratz LM, Meyer RA, Schratz DC. Serial intracoronary ultrasound in children: feasibility, reproducibility, limitations, and safety.
J Am Soc Echocardiogr 2002;15(8):782-90
171. Kerber S, Rahmel A, Heinemann-V O, Budde T, Deng M, Scheld HH, Breithardt G. Angiographic, intravascular ultrasound and functional findings early after transplantation.
Int J Cardiol 1995;49(2):119-29
172. Nissen SE, Tuzcu EM. Coronary intravascular ultrasound.
In: Alexander RW, Schlant RC, Fuster V, eds. Hurst’s The Heart, McGraw-Hill;1998:1754-72
173. Julius BK, Attenhofer JCH, Sutsch G, Brunner HP, Kuenzli A et al. Incidence, progression and functional significance of cardiac allograft vasculopathy after heart transplantation.
Transplantation 2000;69(5):847-53
174. Rickenbacher PR, Botas J, Lewis NP et al.
Incidence and severity of transplant coronary artery disease early and up to 15 years post transplant as detected by intravascular ultrasound.
J Am Coll Cardiol 1994; 25:171-77
175. Pethig K, Klauss V, Heublein B, Mudra H, Westphal A, Weber C, Theisen K, Haverich A. Progression of cardiac allograft vascular disease as assessed by serial intravascular ultrasound: correlation to immunological and non-immunological risk factors.
Heart 2000;84(5):494-98
176. Rickenbacher PR, Pinto FJ, Lewis NP, Hunt SA, Aldermann EL et al.
Prognostic importance of intimal thickness as measured by intracoronary ultrasound after cardiac transplantation.
Circulation 1995;92:3445-3452

177. Liang DH, Gao SZ, Botas J, Pinto FJ, Schroeder JS, Aldermann EL, Yeung AC. Prediction of angiographic disease by intracoronary ultrasonographic findings in heart transplant recipients. *J Heart Lung Transplant* 1996;15(10):980-87
178. Kapadia SR, Ziada KM, Allier PL, Crowe TD, Rincon G, Hobbs R, Bott-Silvermann C, Young JB, Nissen SE, Tuzcu EM. Intravascular ultrasound imaging after cardiac transplantation: advantage of multi-vessel imaging *J Heart Lung Transplant* 2000;19(2):167-72
179. Bocksch W, Wellnhofer E, Schartl M, Dreysse S, Klimek W, Franke R, Musci M, Hetzer R, Fleck E. Reproducibility of serial intravascular ultrasound measurements in patients with angiographically silent coronary artery disease after heart transplantation. *Coron Artery Dis* 2000;11(7):555-62
180. Gaster AL, Korsholm L, Thaysen P, Pedersen KE, Haghfelt TH. Reproducibility of intravascular ultrasound and intracoronary Doppler measurements. *Catheter Cardiovasc Interv* 2001; 53(4):449-58
181. Kobashigawa JA, Katznelson S, Laks H et al. Effect of pravastatin on outcome after cardiac transplantation. *New Engl J Med* 1995; 333:621-27
182. Wenke K, Meiser B, Thiery J et al. Simvastatin reduces graft vessel disease and mortality after transplantation: a four-year randomized trial. *Circulation* 1997; 96(5): 1398-402
183. Hollenberg SM, Lloyd W, Klein MD, Parrillo E, Scherer M. et al. Coronary endothelial dysfunction after heart transplantation predicts allograft vasculopathy and cardiac death. *Circulation* 2001;104:3091-96
184. Caracciolo EA, Wolford TL, Underwood RD, Donohue TJ, Bach RG, Miller LW, Kern MJ. Influence of intimal thickening on coronary blood flow responses in orthotopic heart transplant recipients. A combined intravascular Doppler and ultrasound imaging study. *Circulation* 1995 92(9 Suppl): II 182-90
185. Pinto FJ, StGoar FG, Gao SZ, Chenzbraun A, Fischell TA, Alderman EL, Schroeder JS, Popp RL. Immediate and one-year safety of intracoronary ultrasonic imaging. Evaluation with serial quantitative angiography. *Circulation* 1993;88(4 Pt 1): 1707-14
186. Ramasubbu K, Schoenhagen P, Balghith MA, Brechtken J, Ziada KM et al. Repeated intravascular ultrasound imaging in cardiac transplant recipients does not accelerate transplant coronary artery disease. *J Am Coll Cardiol* 2003;41(10):1739-43
187. Batkoff BW, Linker DT. Safety of intracoronary ultrasound: data from a Multicenter European Registry *Cathet Cardiovasc Diagn* 1996;38(3):238-41

188. Schratz LM, Meyer RA, Schratz DC. Serial intracoronary ultrasound in children: feasibility, reproducibility, limitations and safety.
J Am Soc Echocardiogr 2002;15(8):782-90
189. Costello JM, Wax DF, Binns HJ, Backer CL, Mavroudis C, Pahl E.
A comparison of intravascular ultrasound with coronary angiography for evaluation of transplant coronary disease in pediatric heart transplant recipients.
J Heart Lung Transplant 2003;22(1):44-49
190. Wolford T, Kern MJ. Assessment of transplant arteriopathy by intracoronary two-dimensional ultrasound imaging and coronary flow velocity.
Cathet Cardiovasc Diagn 1995; 35(4):335-42
191. McGinn AL, Wilson RF, Olivari MT, Homans DC, White CW.
Coronary vasodilator reserve after human orthotopic cardiac transplantation.
Circulation 1988;78(5Pt 1):1200-9
192. Treasure CB, Vita JA, Ganz P, Ryan TJ Jr, Schoen FJ et al.
Loss of coronary microvascular response to acetylcholine in cardiac transplant patients.
Circulation 1992;86:1156-64
193. Nitenberg A, Aptekar E, Benvenuti C, Benhaiem N, Tavolato O, Loisance D, Cachera JP.
Effects of time and previous acute rejection episodes on coronary vascular reserve in human heart transplant recipients.
J Am Coll Cardiol 1992;20:1333-38
194. Mazur W, Bitar JN, Young JB, Khalil AA, Vardan S, Short BC, Rive JM, Raizner AE et al.
Progressive deterioration of coronary flow reserve after heart transplantation.
Am Heart J 1998; 136(3):504-9
195. Kern MJ, Bach RG, Mechem CJ, Caracciolo EA, Aguirre FV, Miller LW, Donohue TJ.
Variations in normal coronary vasodilatory reserve stratified by artery, gender, heart transplantation and coronary artery disease.
J Am Coll Cardiol 199;28(5):1154-60
196. Mullins PA, Chauban A, Sharples L, Cary NR, Large SR et al. Impairment of coronary flow reserve in orthotopic cardiac transplant recipients with minor coronary occlusive disease.
Br Heart J 1992;68(3):266-71
197. Von Schedt W, Koglin J, Weis M, Gross T, Meiser BM, Überfuhr P. Epikardial and microvascular manifestations of transplant vasculopathy.
J Heart Lung Transplant 1997;16:85
198. Clasusell N, Butany J, Molossi S, Lonn E, Gladstone P, Rabinowich M, Daly PA.
Abnormalities in intramyocardial arteries detected in cardiac transplant biopsy specimens and lack of correlation with abnormal intracoronary ultrasound or endothelial dysfunction in large epicardial arteries.
J Am Coll Cardiol 1995;26:110-19

199. Weis M, Harmann A, Olbrich HG, Hor G, Zeiher AM. Prognostic significance of coronary flow reserve on left ventricular ejection fraction in cardiac transplant recipients
Transplantation 1998;65(1):103-108
200. König A, Spes CH, Schiele TM, Rieber J, Stempfle HU et al. Coronary Doppler measurements do not predict progression of cardiac allograft vasculopathy: analysis by serial intracoronary Doppler, dobutamine stress echocardiography and intracoronary ultrasound.
J Heart Lung Transplant 2002;21(8)902-5
201. Jackson PA, Akosah KO, Kirchberg DJ, Mohanty PK, Minisi AJ.
Relationship between dobutamine induced regional wall motion abnormalities and coronary flow reserve in heart transplant patients without angiographic coronary artery disease.
J Heart Lung Transplant 2002;21(10):1080-89
202. Klauss V, Ackermann K, Henneke KH. et al. Epicardial intimal thickening in transplant coronary artery disease and resistance vessel response to adenosine: a combined intravascular ultrasound and Doppler study.
Circulation 1997;96(9 Suppl):II-159-64
203. Miller LW, Donohue TJ, Wolford TA.
The surgical management of allograft coronary disease: a paradigm shift.
Semin Thorac Cardiovasc Surg 1996;8(2):133-38
204. Qian J, Ge J, Baumgart D, Oldenburg O, Haude M, Sack S, Erbel R.
Safety of intracoronary Doppler flow measurement.
Am Heart J 2000;140(3):502-10
205. Miller LW. Transplant coronary artery disease: Editorial
J Heart Lung Transplant 1992;11(3):81-84
206. Dandel M, Hummel M, Müller J, Wellnhofer E, Meyer R, Solowjowa N, Ewert R, Hetzer R
Reliability of tissue Doppler wall motion monitoring after heart transplantation for replacement of invasive routine screenings by optimally timed cardiac biopsies and catheterizations
Circulation 2001;104 (Suppl I): I84-I91
207. Mairesse GH, Marwick TH, Melin JA et al. Use of exercise electrocardiography, technetium-99m-MIBI perfusion tomography, and two dimensional echocardiography for coronary disease surveillance in a low prevalence population of heart transplant recipients.
J Heart Lung Transplant. 1995;14(2):222-29
208. Boissonnat P, Garre JP, de Lorgeril M. et al. Evaluation of non invasive methods for the diagnosis of atherosclerosis of the graft after orthotopic cardiac transplantation.
Arch Mal Coeur Vaiss 1992;85(9):1285-90
209. Bacal F, Stolf NA, Veiga VC et al. Noninvasive diagnosis of allograft vascular disease after heart transplantation.
Arq Bras Cardiol 2001 76(1) :29-42
210. Young JB. Allograft Vasculopathy. Diagnising the nemesis of heart transplantation.
Circulation 1999;100:458-60

211. Fang JC, Rocco T, Jarcho J, Ganz P, Mudge JH. Noninvasive assessment of transplant associated arterial sclerosis.
Am Heart J 1998;135:980-87
212. Collings CA, Pinto FJ, Valentine HA et al. Exercise echocardiography in heart transplant recipients: A comparison with angiography and intracoronary ultrasonography.
J Heart Lung Transplant 1994;13:604-13
213. Cohn JM, Wilensky RL, O'Donnell JA. et al. Exercise echocardiography, angiography and intracoronary ultrasound after cardiac transplantation.
Am J Cardiol 1996;77(14):1216-19
214. Akosah KO, Mohanty PK, Funai TJ. et al. Noninvasive detection of transplant coronary artery disease by dobutamine stress echocardiography.
J Heart Lung Transplant 1994;13:1024-38
215. Heregotds MC, Anastassiou I, Van Cleemput J. et al. Dobutamine stress echocardiography after heart transplantation
J Heart Lung Transplant 1994;13(6):1039-44
216. Ciliberto GR, Massa D, Mangiacavchi M. et al. High-dose dipyridamole echocardiography test in coronary artery disease after heart transplantation.
Eur Heart J 1993;14(1):48-52
217. Spes CH, Klaus V, Mudra H. et al. Quantitative dobutamine stress echocardiography in follow-up of heart transplantation: normal values and findings in transplant vasculopathy.
Z. Kardiol 1997;86(10):868-76
218. Akosah KO, Denlinger B, Mohanty PK. et al. Safety profile and hemodynamic responses to beta-adrenergic stimulation by dobutamine in heart transplant recipients.
Chest 1999;116(6):1587-92
219. Spes CH, Klaus V, Mudra H. et al. Diagnostic and prognostic value of serial dobutamine stress echocardiography for noninvasive assessment of cardiac allograft vasculopathy.
Circulation 1999;100(5):509-15
220. Derumeaux G, Redonnet M, Soyer R. et al. Assessment of the progression of cardiac allograft vasculopathy by dobutamine stress echocardiography.
J Heart Lung Transplant 1998;17(3):259-67
221. Pamboukian SV, Constanzo MR. Transplant coronary vasculopathy.
Curr Treat Options Cardiovasc Med 2001;3(1):55-63
222. Akosah KO, McDaniel, Hanrahn JS, Mohanty PK. Dobutamine stress echocardiography early after heart transplantation predicts development of allograft coronary artery disease and outcome.
J Am Coll Cardiol 1998;31(7):1607-14
223. Akosah KO, Olsovky M, Kirchberg D, Salter D, Mohanty PK. Dobutamine stress echocardiography predicts cardiac events in heart transplant patients.
Circulation 1996;94(Suppl):II283-88

224. Derumeaux G, Redonnet M, Mouton-Schleifer D. et al. Dobutamine stress echocardiography in orthotopic heart transplant recipients. VACOMED Reserch Group. *J Am Coll Cardiol* 1996;27(4):953-54
225. Spes CH, Klaus V, Rieber J. et al. Functional and morphological findings in heart transplant recipients with a normal coronary angiogram: an analysis by dobutamine stress echocardiography, intracoronary Doppler and intravascular ultrasound. *J Heart Lung Transplant* 1999;18(5):391-98
226. Di Filippo S, Raboisson MJ, Sassolas F. et al. Dobutamine echocardiography in children after heart transplantation. *Arch Mal Coeur Vaiss* 2000;93(5):519-25
227. Larsen RL, Applegate PM, Dyar DA. Et al. Dobutamine stress echocardiography for assessing coronary artery disease after transplantation in children. *J Am Coll Cardiol* 1998;32(2):515-20
228. Gunther F, Schwammenthal E, Rahmel A. et al. Initial experience with dobutamine stress echocardiography in heart transplant patients. *Z Kardiol* 1995;84(5):411-8
229. DeMaria AN, Blanchard DG. Echocardiography in coronary heart disease. In: Alexander RW, Schlant RC, Fuster V, eds. *Hurst's The Heart*, McGraw-Hill;1998:472-80
230. Krzanowski M, Bodzon W, Brzostek T. et al. Value of transthoracic echocardiography for the detection of high-grade coronary artery stenoses: prospective evaluation in 50 consecutive patients scheduled for coronary angiography. *J Am Soc Echocardiogr* 2000 13(12):1091-99
231. Burwash JG, Chan K-L. Transesophageal Echocardiography: Indications, procedure, image planes, and Doppler flow. In Otto CM. Ed. *The Practice of Clinical Echocardiography (Second Edition)*, W.B. Saunders Company, Philadelphia, 2002:658-78
232. Tardif JC, Vannon MA, Taylor K et al. Delineation of extended of coronary arteries by multiple transesophageal echocardiography. *J Am Coll Cardiol* 1994;24:909-919
233. Samdarshi TE, Nanda NC, Gatewood RP Jr. et al. Usefulness and limitations of transesophageal echocardiography in the assessment of proximal coronary artery stenosis. *J Am Coll Cardiol* 1992;19:572-580
234. Kozakova M, Palombo C, Pratali L. et al. Assessment of coronary reserve by transoesophageal Doppler echocardiography: Direct comparison between different modalities of dipyridamole and adenosine administration. *Eur Heart J* 1997;18:514-23
- 235 Lambertz H, Lethen H, Tries HP, Kersting S. Non-invasive assessment of coronary flow reserve – valuable functional information in cardiac workflow. *Z Kardiol* 2003;92(2):137-46

236. Unger P, Preumont N, Vachiery JL. et al. Assessment of coronary flow reserve by transesophageal echocardiography in cardiac transplant recipients.
J Am Soc Echocardiogr 1998;11(6):612-19
237. Brundage BH. Computed tomography of the heart.
In: Alexander RW, Schlant RC, Fuster V, eds. Hurst's The Heart, McGraw-Hill; 1998:799-821
238. Budoff MJ, Georgiou D, Brody A. et al. Ultrafast computed tomography as a diagnostic modality in the detection of coronary artery disease. A multicenter study.
Circulation 1996;93:898-904
239. Barbir M, Lazem F, Bowker T. et al. Determinants of transplant-related coronary calcium detected by ultrafast computed tomography scanning.
Am J Cardiol 1997;79(12):1606-9
240. Shenesh J, Tenebaum A, Stroh CI. Et al. Double-helical CT as a new tool for tracking of allograft atherosclerosis in heart transplant recipients.
Invest Radiol 1999;34(7):485-88
241. Ludmann FF, Lazem F, Barbir M, Yacoub M. Incidence and clinical relevance of coronary calcification detected by electron beam computed tomography in heart transplant recipients
Eur Heart J 1999;20(4):303-8
242. Knollmann FD, Bocksch W, Spiegelsberger S. et al. Electron-beam computed tomography in the assessment of coronary artery disease after heart transplantation.
Circulation 2000;101:2071-82
243. Billingham M. Histopathology of graft coronary disease.
J Hear Lung Transplant 11(3, Pt 2):S38-44
244. Patterson RE, Eisner RL, Williams RB Jr. Nuclear Cardiology.
In: Alexander RW, Schlant RC, Fuster V, eds. Hurst's The Heart, McGraw-Hill; 1998:575-622
245. Puskas C, Kosch M, Kerber S. et al. Progressive heterogeneity of myocardial perfusion in heart transplant recipients detected by thallium-201 myocardial SPECT
J Nucl Med 1997;38(5):760-65
246. Kerber S, Puskas C, Jonas M. et al. Can TI-201 myocardial SPECT abnormalities in orthotopic heart recipients be explained by coronary vessel wall alterations assessed by intravascular ultrasound ?
Int J Cardiol 1996;57(1):91-96
247. Ciliberto GR, Mangiavacchi M, Banfi F. et al. Coronary artery disease after heart transplantation: non-invasive evaluation with exercise thallium scintigraphy.
Eur Heart J 1993;14(2):226-29

248. Rodney RA, Johnson LL, Blood DK. et al. Myocardial perfusion scintigraphy in heart transplant recipients with and without allograft atherosclerosis: A comparison of thallium²⁰¹ and technetium ^{99m} sestamibi
J Heart Lung Transplant 1994;13:173-80
249. Pouillard F, Levy M, Amrein C. et al. Importance of dual isotope myocardial tomoscintigraphy in the detection of coronary disease in the graft among 96 heart transplant recipients.
Arch Mal Coeur Vaiss 1999;92(2):235-41
250. Horwath DM, Forstrom LA, Samudrala V. et al Evaluation of ²⁰¹Tl SPECT myocardial perfusion imaging in the detection of coronary artery disease after orthotopic heart transplantation.
Nucl Med Commun 1996;17(2):105-13
251. Smart FW, Ballantyne CM, Cocanougher B. et al. Insensitivity of noninvasive tests to detect coronary artery vasculopathy after heart transplant.
Am J Cardiol 1991;67:243-47
252. Elhendy A, Sozzi FB, von Domburg RT. et al. Accuracy of dobutamine tetrofosmin myocardial perfusion imaging for the noninvasive diagnosis of transplant coronary artery stenosis.
J Heart Lung Transplant 2000;19(4):360-66
253. Carlsen J, Toft JC, Mortensen AS. et al. Myocardial perfusion scintigraphy as a screening method for significant coronary artery stenosis in cardiac transplant recipients.
J Heart Lung Transplant 2000;19(9):873-78
254. Verhoeven PP, Lee FA, Ramahi TM. et al. Prognostic value of non-invasive testing one year after orthotopic cardiac transplantation.
J Am Coll Cardiol 1996;28:183-89
255. Ciliberto GR, Ruffini L, Mangiavacchi M. et al. Resting echocardiography and quantitative dipyridamole technetium-^{99m} sestamibi tomography in the identification of cardiac allograft vasculopathy and the prediction of long-term prognosis after heart transplantation.
Eur Heart J 2001;22(11)964-71
256. Elhendy A, von Domburg RT, Vantrimpont P. et al. Prediction of mortality in heart transplant recipients by stress technetium-^{99m} tetrofosmin myocardial perfusion imaging.
Am J Cardiol 2002;89(8):964-68
257. Legare JF, Haddad H, Barnes D. et al. Myocardial scintigraphy correlates poorly with coronary angiography in the screening of transplant atherosclerosis.
Can J Cardiol 2001;17(8):866-72
258. Rodney RA, Johnson LL. Myocardial perfusion scintigraphy to assess heart transplant vasculopathy.
J Heart Lung Transplant 1992;11(3 Pt 2): S74-78
259. Schelbert HR. Positron emission tomography.
 In: Alexander RW, Schlant RC, Fuster V, eds. *Hurst's The Heart*, McGraw-Hill; 1998:661-84

260. Zhao XM, Delbecke D, Sandler MP. et al. Nitrogen-13-ammonia and PET to detect allograft coronary artery disease after heart transplantation: comparison with coronary angiography.
J Nucl Med 1995 36(6):982-87
261. Kofoed KF, Czernin J, Johnson J. et al. Effects of cardiac allograft vasculopathy on myocardial blood flow, vasodilatory capacity, and coronary vasomotion.
Circulation 1997;95:600-606
262. Wolpers HG, Koster C, Burchert W. et al. Coronary reserve after orthotopic heart transplantation: quantification with N-13 ammonia and positron emission tomography.
Z Kardiol 1995;84(2):112-20
263. Preumont N, Berkenboom G, Vachier J. et al. Early alterations of myocardial blood flow reserve in heart transplant recipients with angiographically normal coronary arteries.
J Heart Lung Transplant 2000;19(6):538-45
264. Sengupta PP, Mohan JC, Pandian NG. Tissue Doppler Echocardiography: principles and applications.
Indian Heart J 2002;54(4):368-78
265. Hoffmann R. Gewebedopplerechokardiographie bereits von klinischer Bedeutung?
Z Kardiol 2002;91:677-84
266. Waggoner AD, Bierig SM. Tissue Doppler imaging: a useful echocardiographic method for the cardiac sonographer to assess systolic and diastolic ventricular function
J Am Soc Echocardiogr 2001;14(12):1143-52
267. Hoskins PR. Ultrasound techniques for measurement of blood flow and tissue motion.
Biorheology 2002;39(3-4):451-59
268. Yamazaki M, Mine Y, Sano A. et al. Analysis of ventricular wall motion using color-coded tissue Doppler imaging.
Jpn J Appl Physiol 1994;33:3141-46
269. Miytake K, Yamagishi M, Tanaka M, Uematsu M, Yamazaki N. et al. New method for evaluating left ventricular wall motion by color-coded tissue Doppler imaging: in vitro and in vivo studies.
J Am Coll Cardiol 1995;25:717-24
270. Sutherland G, Steward M, Groundstroen K. et al. Color Doppler myocardial imaging: a new technique for the assessment of myocardial function.
J Am Soc Echocardiogr 1994;7:441-58
271. Isaza K, Thompson A, Ethevenot G. et al. Doppler echocardiographic measurement of low velocity motion of the left ventricular posterior wall.
Am J Cardiol 1989;64:66-75
272. Flemming AD, Xia X, McDicken WM. et al. Myocardial velocity gradients detected by Doppler imaging.
Br J Radiol 1994;67:679-88

273. Uematsu M, Miyatake K, Tanaka N et al. Myocardial velocity gradient as a new indicator of regional left ventricular contraction: detection by two-dimensional tissue Doppler imaging technique
J Am Coll Cardiol 1995;26:217-23
274. Uematsu M, Nakatani S, Yamagishi M, Matsuda H, Miyatake K. Usefulness of myocardial velocity gradient derived from two-dimensional tissue Doppler imaging as an indicator of regional myocardial contraction independent of translational motion assessed in atrial septal defect.
Am J Cardiol 1997;79(2):237-41
275. Veyrat C, Pellerin D, Larrazet F. Myocardial Doppler tissue imaging: past, present and future.
Arch Mal Coeur Vaiss 1997;90(10):1391-402
276. Edvardsen T, Skulstad H, Aakhus S. et al. Regional myocardial systolic function during acute myocardial ischemia assessed by strain Doppler echocardiography.
J Am Coll Cardiol 2001;37(3):726-30
277. Voigt JU, Exner B, Schmiedehausen K. et al. Strain-Rate Imaging during dobutamine stress echocardiography provides objective evidence of inducible ischemia
Circulation 2003;107:2120-26
278. Edvardsen T, Gerber BL, Garot J. et al Qualitative assessment of intrinsic regional myocardial deformation by Doppler strain rate echocardiography in Humans: Validation against three- dimensional tagged magnetic resonance imaging.
Circulation 2002;106:50-56
279. Abraham T, Nashimura RA, Holmes DR. et al. Strain rate imaging for assessment of regional myocardial function : Results from a clinical model of septal ablation.
Circulation 2002;105:1403-06
280. Urheim S, Edvardsen T, Torp H. et al. Myocardial strain by Doppler echocardiography: validation of a new method to quantify regional myocardial function.
Circulation 2000;102:1158-64
281. Greenberg NL, Firstenberg SM, Castro PL. et al. Doppler derived myocardial systolic strain rate is a strong index of left ventricular contractility.
Circulation 2002;105:99-105
282. Sheehan FH. Quantitative evaluation of regional left ventricular systolic function.
In Otto CM. Ed. The Practice of Clinical Echocardiography (Second Edition),
W.B. Saunders Company, Philadelphia, 2002:88-110
283. Garcia JM, Rodriguez L, Ares M, Griffin PB, Klein AL. et al. Myocardial wall velocity assessment by pulsed Doppler tissue imaging: Characteristic findings in normal subjects.
Am Heart J 1996;132:648-56
284. Smith MD. Left ventricular diastolic function: Clinical utility of Doppler echocardiography
In Otto CM. Ed. The Practice of Clinical Echocardiography (Second Edition),
W.B. Saunders Company, Philadelphia, 2002:113-140

285. Onose Y, Oki T, Mishiro Y. et al. Influence of age on systolic left ventricular wall motion velocities along the long and short axes in clinically normal patients determined by pulsed tissue Doppler imaging
J Am Soc Echocardiogr 1999;12:921-26
286. Muller S, Bartel T, Schurger D. et al. Quantitative tissue Doppler in comparison with two-dimensional and Doppler echocardiographic indices in normal subjects.
Int J Cardiol 1997;61(2):183-92
287. Rychik J, Tian ZY. Quantitative assessment of myocardial velocities in normal children with Doppler tissue imaging.
Am J Cardiol 1996;77(14):1254-57
288. Mori K, Hayabuchi Y, Kuroda Y. et al. Left ventricular wall motion velocities in healthy children measured by pulsed wave Doppler-tissue echography: Normal values and relation to age and heart rate.
J Am Soc Echocardiogr 2000;13:1002-11
289. Mori K, Kuroda Y. Quantification of the myocardial velocity gradient and myocardial wall thickening velocity in healthy children: a new indicator of regional wall motion.
J Am Soc Echocardiogr 2002;15(6):624-32
290. Swaminathan S, Ferrer PL, Wolff GS. et al. Usefulness of tissue Doppler echocardiography for evaluating ventricular function in children without heart disease
Am J Cardiol 2003;91(5):570-74
291. Derumeaux G, Cochonneau O, Douillet R. et al. Comparison of myocardial velocities by tissue color Doppler imaging in normal subjects and in dilated cardiomyopathy.
Arch mal Coeur Vaiss 1997;90(6):773-8
292. Donovan CL, Armstrong WF, Bach DS. Quantitative Doppler tissue imaging of the left ventricular myocardium: validation in normal subjects.
Am Heart J 1995;130(1):100-104
293. Palka P, Lange A, Fleming AD. Doppler tissue imaging: myocardial wall motion velocities in normal subjects.
J Am Soc Echocardiogr 1995;8(5 Pt 1):659-68
294. Bruch C, Marin D, Kuntz S. et al. Analyse der Mitralringexkursion mittels Gewebedoppler-echokardiographie (Tissue Doppler echocardiography = TDI): Nichtinvasive Aufdeckung der linksventrikulären diastolischen Funktionsstörung.
Z Kardiol 1999;88:353-62
295. Oki T, Tabata T, Mishiro Y. et al. Pulsed tissue doppler imaging of left ventricular systolic and diastolic wall motion velocities to evaluate differences between long and short axes in healthy subjects.
J Am Soc Echocardiogr 1999;12(5):308-13
296. Hada Y, Itoh N, Tohyo Y. Intramyocardial pulsed Doppler echocardiography as a new modality for evaluation of left ventricular wall motion: assessment in normal subjects.
J Cardiol 1996;28(2):85-92

297. Pai RG, Gill KS. Amplitudes, durations, and timing of apically directed left ventricular myocardial velocities: I. Their normal pattern and coupling to ventricular filling and ejection. *J Am Soc Echocardiogr* 1998;11(2):105-11
298. Galiuto L, Ignone G, De Maria AN. Contraction and relaxation velocities of the normal left ventricle using pulsed-wave tissue Doppler echocardiography. *Am J Cardiol* 1998;81(5):609-14
299. Silva CE, Ferreira LD, Peixoto LB. et al. Study of the myocardial contraction and relaxation velocities through Doppler tissue imaging echocardiography: A new alternative in the assessment of the segmental ventricular function. *Arq Bras Cardiol* 2002;78(2):200-11
300. Rodriguez L, Garcia M, Ares M. et al. Assessment of mitral annular dynamics during diastole by Doppler tissue imaging: comparison with mitral Doppler inflow in subjects without heart disease and in patients with left ventricular hypertrophy. *Am heart J* 1996;131(5):982-87
301. Palka P, Lange A, Fleming AD. et al. Age-related transmural peak mean velocities and peak velocity gradients by Doppler myocardial imaging in normal subjects. *Eur Heart J* 1996;17(6):940-50
302. Alam M, Wardell J, Andersson E. Characteristics of mitral and tricuspid annulus velocities determined by pulsed wave tissue Doppler imaging in healthy subjects. *J Am Soc Echocardiogr* 1999;12(8):618-28
303. Lindstrom L, Wranne B. Pulsed tissue Doppler evaluation of mitral annulus motion: a new window to assessment of diastolic function. *Clin Physiol* 1999;19(1):1-10
304. Andersen HN, Poulsen HS. Evaluation of longitudinal contraction of left ventricle in normal subjects by Doppler tissue tracking and strain rate. *J Am Soc Echocardiogr* 2003;16:716-23
305. Fujimoto S, Oki T, Tabata T. et al. Novel approach to the quantification of regional ventricular systolic and diastolic function using tissue Doppler imaging to create a myocardial velocity profile and gradient. *Circ J* 2003;67(5):426-22
306. Puleo JA, Aranda JM, Wesron MW. et al. Noninvasive detection of allograft rejection in heart transplant recipients by use of Doppler tissue imaging. *J Heart Lung Transplant* 1998; 17:176-84
307. Trambaiolo P, Tonti G, Salustri A. et al. New insights into regional systolic and diastolic left ventricular function with tissue Doppler echocardiography: From qualitative analysis to a quantitative approach. *J Am Soc Echocardiogr* 2001;14:85-96
308. Lind B, Nowak K, Dorph J, van der Linden J, Brodin LA. Analysis of temporal requirements for tissue velocity imaging. *Eur J Echocardiogr* 2002;3(3):214-19

309. Aranda JM Jr, Weston MW, Puleo JA, Fontanet HL. Effect of loading conditions on myocardial relaxation velocities determined by Doppler tissue imaging in heart transplant recipients. *J Heart Lung Transplant* 1998; 17(7):693-97
310. Nagueh SF, Middleton KJ, Kopelen HA. et al. Doppler tissue imaging: a noninvasive technique for evaluation of left ventricular relaxation and estimation of filling pressures. *J Am Coll Cardiol* 1997;30(6):1527-33
311. Sohn DW, Chai IH, Lee DJ. et al. Assessment of mitral annulus velocity by Doppler tissue imaging in the evaluation of left ventricular diastolic function. *J Am Coll Cardiol* 1997;30(2):474-80
312. Bruch C, Marin D, Kuntz S. et al. Analysis of mitral annulus excursion with tissue Doppler echocardiography (TDI). Noninvasive assessment of left ventricular diastolic dysfunction. *Z Kardiol* 1999;88(5):353-62
313. Thamilarasan M, Klein AL. Restrictive cardiomyopathy: Diagnosis and prognostic implications
In Otto CM. Ed. *The Practice of Clinical Echocardiography (Second Edition)*, W.B. Saunders Company, Philadelphia, 2002:613-38
314. Dincer I, Kumbasar D, Nergisoglu D. et al. Assessment of left ventricular diastolic function with Doppler tissue imaging: effects of preload and place of measurements. *Int J Cardiovasc Imaging* 2002;18(3):155-60
315. Shimizu Y, Uematsu M, Shimizu H. Peak negative myocaedial velocity gradient in early diastole as a noninvasive indicator of left ventricular diastolic function: comparison with transmitral flow velocity indices. *J Am Coll Cardiol* 1998;32(5):1418-25
316. Yamada H, Oki T, Tabata T. Assessment of systolic wall motion velocity with pulsed tissue Doppler imaging: comparison with peak dP/dt of left ventricular pressure curve. *J Am Soc Echocardiogr* 1998;11(5):442-49
317. Kobayashi T, Tamano K, Takahashi M. et al. Myocardial systolic function of the left ventricle along the long axis in patients with essential hypertension: a study by pulsed tissue Doppler imaging. *J Cardiol* 2003;41(4):175-82
318. Sohn D-W, Song J-M, Zo J-H. et al. Mitral annulus velocity evaluation of left ventricular function in atrial fibrillation. *J Am Soc Echocardiogr* 1999;12:927-31
319. Golshayan D, Seydoux C, Berguer DG. et al. Incidence and prognostic value of electrocardiographic abnormalities after heart transplantation. *Clin Cardiol* 1998;21(9):680-84
320. Isaaq K, Munoz del Romeral L, Lee E. et al. Quantification of the motion of the cardiac base in normal subjects by Doppler echocardiography. *J Am Soc Echocardiogr* 1993;6:166-76

321. Garcia MJ, Rodriguez L, Ares M. et al. Differentiation of constrictive pericarditis from restrictive cardiomyopathy: assessment of left ventricular diastolic velocities in longitudinal axis by Doppler tissue imaging
J Am Coll Cardiol 1996;27:108-14
322. Naqvi T, Neymann G, Broyde A. et al. Comparison of myocardial tissue Doppler with transmitral flow Doppler in left ventricular hypertrophy.
J Am Soc Echocardiogr 2001;14:1153-60
323. Oki T, Tabata T, Yamada H. et al. Clinical application of pulsed Doppler tissue imaging for assessment of abnormal left ventricular Relaxation.
Am J Cardiol 1997;79:921-28
324. Sohn D, Chai I, Lee D. et al. Assessment of mitral annulus velocity by Doppler tissue imaging in the evaluation of left ventricular diastolic function
J Am Coll Cardiol 1997;30:474-80
325. Ohte N, Narita H, Hashimoto T. et al. Evaluation of left ventricular early diastolic performance by color tissue Doppler imaging of the mitral annulus.
Am J Cardiol 1998;82(11):1414-17
326. Lengyel M, Nagy A, Zorandi A. Tissue Doppler echocardiography: a new technique to assess diastolic function.
Orv Hetil 2002;143(7):333-39
327. Marsumura Y, Elliot PM, Virdee MS. et al. Left ventricular diastolic function using Doppler tissue imaging in patients with hypertrophic cardiomyopathy: Relation to symptoms and exercise capacity.
Heart 2002;87(3):247-51
328. Ha J-W, Oh JK, Ling LH. et al. Annulus paradoxus. Transmitral flow velocity to annular velocity ratio is inversely proportional to pulmonary capillary wedge pressure in patients with constrictive pericarditis.
Circulation 2001;104:976-78
329. Ommen SR, Nishimura RA, Appleton CP. et al. Clinical utility of Doppler echocardiography and tissue Doppler imaging in the estimation of left ventricular filling pressures: A comparative simultaneous Doppler-catheterization study.
Circulation 2000;102:1788-94
330. Nagueh SF, Mikati I, Kopelen HA. et al. Doppler estimation of left ventricular filling pressure in sinustachycardia. A new application of tissue Doppler imaging.
Circulation 1998;98:1644-50
331. Dagdelen S, Eren N, Karabulut H. et al. Estiation of left ventricular enddiastolic pressure by color M-mode Doppler echocardiography and tissue Doppler imaging
J Am Soc Echocardiogr 2001;14:951-58
332. Gonzales-Vilchez F, Ayuela J, Ares M. et al. Comparison of Doppler echocardiography, color M-mode Doppler and Doppler tissue imaging for the estimation of pulmonary capillary wedge pressure.
J Am Soc Echocardiogr 2002;15(19 Pt 2):1245-50

333. Palka P, Lange A, Burstow D. Doppler myocardial velocity gradient as a new diagnostic index for the assessment of myocardial disease.
Pol Merkuriusz Lek 2001;11(61):72-80
334. Wang M, Yip GW, Wang AY. et al. Peak early diastolic mitral annulus velocity by tissue Doppler imaging adds independent and incremental prognostic value.
J Am Coll Cardiol 2003;41(5):820-26
335. Abe M, Oki T, Tabata T. et al. Differences in the diastolic left ventricular wall motion velocities between aortic and mitral regurgitation by pulsed tissue Doppler imaging
J Am Soc Echocardiogr 1999;12:15-21
336. Aurigemma GP, Douglas PS, Gaasch WH. Quantitative evaluation of left ventricular structure, wall stress, and systolic function. In Otto CM. Ed. The Practice of Clinical Echocardiography (Second Edition), W.B. Saunders Company, Philadelphia, 2002:65-87
337. Abraham TP, Nishimura MA. Myocardial strain: can we finally measure contractility ?
J Am Coll Cardiol 2001;37(3):731-34
338. Gulati VK, Katz WE, Follansbee WP. et al. Mitral annular descent velocity by tissue Doppler echocardiography as an index of global left ventricular function.
Am J Cardiol 1996;77:979-84
339. Mishiro Y, Oki T, Yamada H. et al. Evaluation of left ventricular contraction abnormalities in patients with dilated cardiomyopathy with the use of pulsed tissue Doppler imaging
J Am Soc Echocardiogr 1999;13:913-20
340. Yamada H, Oki T, Tabata T. et al. Assessment of left ventricular systolic wall motion with pulsed tissue Doppler imaging: comparison with peak dP/dt of the left ventricular pressure curve.
J Am Soc Echocardiogr 1998;11:442-49
341. Bach DS. Quantitative Doppler tissue imaging as a correlate of left ventricular contractility.
In J Card Imaging 1996;12(3)191-95
342. Gorcsan J 3rd, Strum DP, Mandarino WA. Qualitative assessment of alterations in regional left ventricular contractility with color-coded tissue Doppler echocardiography. Comparison with sonomicrometry and pressure-volume relations.
Circulation 1997;95(10)2423-33
343. Koyama J, Ray-Sequin PA, Rodney H, Falk H. Longitudinal myocardial function assessed by tissue velocity, strain and strain rate tissue Doppler echocardiography in patients with AL (primary) cardiac amyloidosis
Circulation 2003;107:2446-52
344. Poulsen HS, Andersen HN, Ivarsen PI. et al. Doppler tissue imaging reveals systolic dysfunction in patients with hypertension and „apparent“ diastolic dysfunction.
J Am Soc Echocardiogr 2003;16:724-31
345. Fyfe DA, Mahle WT, Kanter RR, Wu G. et al. Reduction of tricuspid annular doppler tissue velocities in pediatric heart transplant patients.
J Heart Lung Transplant 2003;22(5):553-59

346. Oki T, Fukada K, Takahara T. et al. Effect of acute increase in afterload on left ventricular regional wall motion velocity in healthy subjects.
J Am Soc Echocardiogr 1999;12:476-83
347. Pellerin D, Cohen L, Larrazet F. et al. Preejectional left ventricular wall motion in normal subjects using tissue imaging and correlation with ejection fraction.
Am J Cardiol 1997;80(5):601-7
348. Veyrat C, Pellerin D, Cohen L. et al. Doppler tissue imaging of pre-ejection left ventricular wall dynamics in normal subjects.
Arch Mal Coeur Vaiss 1998;91(1):29-38
349. Vogel M, Cheung MMH, Li J. et al. Noninvasive assessment of left ventricular force-frequency relationship using tissue Doppler derived isovolumetric acceleration. Validation in an animal model.
Circulation 2003;107:1647-52
350. Derumeaux G, Ovice M, Loufoua J. et al. Doppler tissue imaging quantitates regional wall motion during myocardial ischemia and reperfusion.
Circulation 1998;97:1970-77
351. Gorcsan J, Deswal A, Mankad S. et al. Quantification of the myocardial response to low dose dobutamine using tissue Doppler echocardiographic measures of velocity and velocity gradient
Am J Cardiol 1998;81:615-23
352. Katz KE, Gulati VK, Mahler CM, Gorcsan J 3rd. Quantitative evaluation of the segmental left ventricular response to dobutamine stress by tissue Doppler echocardiography.
Am J Cardiol 1997;79:1036-42
353. Larrazet F, Pellerin D, Daou D. et al. Concordance between dobutamine Doppler tissue imaging and rest reinjection thallium-201 tomography in dysfunctional hypoperfused myocardium
Heart 1999 ;82 :432-37
354. Fathi R, Cain P, Nakatani S, Yu HC, Marwick TH. Effect of tissue Doppler on the accuracy of novice and expert interpreters of dobutamine echocardiography.
Am J Cardiol 2001;88:400-405
355. Citro R, Salustri A, Tramboaiolo P, Gregorio G. Tissue Doppler in the assessment of myocardial function in stress echocardiography.
Ital Heart J 2002;3:161-69
356. Cain P, Short L, Baglin T. et al. Development of a fully quantitative approach to the interpretation of stress echocardiography using radial and longitudinal myocardial velocities
J Am Soc Echocardiogr 2002;15(8):759-67
357. Najos-Valecia O, Cain P, Case C. et al. Determinants of tissue Doppler measures of regional diastolic function during dobutamine stress echocardiography.
Am Heart J 2002;144(3):516-23

358. Wada Y, Murata K, Kimura K. et al. Diastolic response during dobutamine stress echocardiography evaluated by a tissue velocity imaging technique is a sensitive indicator of diagnosing coronary artery disease.
J Am Soc Echocardiogr 2003;16(4):309-17
359. Yuan D, Kuhl H, Nowak B. et al. Pulsed tissue Doppler imaging to assess myocardial viability by quantification of regional myocardial functional reserve.
Echocardiography 2001;18(8):657-64
360. Tsutsui H, Uematsu M, Shimizu H. et al. Comparative usefulness of myocardial velocity gradient in detecting ischemic myocardium by a Dobutamine challenge.
J Am Coll Cardiol 1998;31:89-93
361. Voigt J-U, Exner B, Schmiedehausen K. et al. Strain-Rate imaging during dobutamine Stress echocardiography provides objective evidence of inducible ischemia.
Circulation 2003;107:2120-26
362. Hoffmann R, Altiok E, Nowak B. Strain rate measurement by Doppler echocardiography allow improved assessment of myocardial viability in patients with depressed ventricular function.
J Am Coll Cardiol 2002;39(3):443-49
363. J D'Hooge, Heimdal A, Jamal F. et al. Regional strain and strain rate measurements by cardiac ultrasound: Principles, implementation and limitations.
Eur J Echocardiography 2000;1(3):155-70
364. Rambaldi R, Poldermans D, Fioretti PM. et al. Usefulness of pulse-wave Doppler tissue sampling and dobutamine Stress echocardiography for the diagnosis of right coronary artery narrowing.
Am J Cardiol 1998;81(12):1411-15
365. Derumeaux G, Douillet R, Redonnet M, et al. Detection of acute rejection of heart transplantation by Doppler color imaging. Arch Mal Coeur Vaiss 1998;91:1255-62
366. Dandel M, Hummel M, Müller J, et al. Clinical value of pulsed-wave tissue Doppler imaging parameters in the follow-up of patients after heart transplantation.
Circulation 1999 (Suppl.);100(18):I-391
367. Dandel M, Hummel M, Müller J, et al. Usefulness of pulsed-wave tissue Doppler imaging indices of systolic and diastolic function for rejection investigation and the detection of changes induced by transplant coronary artery disease. Transplantation 1999 67(7):S107
368. Bach DS, Armstrong WF, Donovan CL, et al. Quantitative Doppler tissue imaging for assessment of regional myocardial velocities during transient ischemia and reperfusion.
Am Heart J 1996;132:721-25
369. Dandel M, Wellnhofer E, Hummel M, et al. Early detection of left ventricular dysfunction related to transplant coronary artery disease.
J Heart Lung Transplant 2003;13:53-64
370. Bocksch W, Wellnhofer E, Klimek W, et al. Intravascular ultrasound assessment of longitudinal plaque distribution patterns in patients with angiographically silent coronary artery disease after heart transplantation.
Coronary Artery Disease 2002; 13:349-56

371. Park J-W, Warnecke H, Deng M et al. Early diastolic left ventricular function as a marker of acute cardiac rejection: a prospective serial echocardiographic study. *Int J Cardiol* 1992; 37:351-59
372. Taylor DO, Yowell RL, Kfoury AG et al. Allograft coronary artery disease: correlation with circulating ant-HLA antibodies and the immunopathologic pattern of vascular rejection. *J Heart Lung Transplant* 2000; 19:518-21
373. Dandel M, Hummel M, Meyer R et al. Left ventricular dysfunction during cardiac allograft rejection: Early diagnosis, relationship to the histological severity grade and therapeutic implications. *Transplant Proc* 2002; 34:2169-73
374. Dandel M, Hummel M, Wellnhofer E et al. Tissue Doppler imaging for the assessment of systolic and diastolic ventricular function. *J Am Soc Echocardiogr* 2002; 15(5):478 (Letter to the editor)
375. Dandel M, Müller J, Hummel M et al. Efficiency and reliability of early postoperative non-invasive rejection monitoring. *Transplant Proc* 2002; 34:2174-77
376. Hummel M, Dandel M, Knollmann F et al. Long-term surveillance of heart-transplanted patients: non-invasive monitoring of acute rejection episodes and transplant vasculopathy. *Transplant Proc* 2001; 33(7-8):3539-42
377. Hummel M, Müller J, Dandel M, Hetzer R. Surveillance biopsies in heart and lung transplantation. *Transplant Proc* 2002;34(5) :1860-63
378. Dandel M, Hummel M, Wellnhofer E et al. Zuverlässigkeit der linksventrikulären Wandbewegungsanalyse mit dem gepulsten Gewebedopplerverfahren für das Timing von Myokardbiopsien und Koronarangiographien nach Herztransplantation *Z Herz- Thorax- Gefäßchirurgie* 2004; 18:1-14
379. Dandel M, Knosalla C, Buz S, Knollmann F, Hetzer R. Vorteilhafte Gestaltung der biatrialen Anastomose für die Geometrie des rechten Vorhofs. *Thorakale Organtransplantation*. Rüter F, von Scheidt W, Buser P, Zerkowski HR. eds. Steinkopff Verlag, Darmstadt. 2002:104-15
380. Dandel M, Hummel M, Müller J. et al. Clinical value of non-invasive cardiac rejection monitoring by tissue Doppler and telemetric intramyocardial electrogram recordings during the first post-transplant year. *Circulation* 2001; 104(17 suppl):431
381. Dandel M, Kemper D, Lehmkuhl H, Hetzer R. Evaluation of left ventricular pressures by the Tei index. *J. Am Soc Echocardiogr* 2004; 17(8):709
382. Best of the AHA Scientific Sessions 2001 (editorial board members review). Highlights from the American Heart Association Scientific Sessions 2001, Nov. 11-14, Anaheim, CA *Rev Cardiovasc Med* 2002;3(1):22-48

383. Naqvi TZ. Diastolic Function Assessment Incorporating New Techniques in Doppler Echocardiography.
Rev Cardiovasc Med 2003;4(2):81-99
384. Dandel M, Knollmann F, Wellnhofer E et al. Noninvasive surveillance strategy for early identification of patients with possible coronary stenoses.
Transplant Proc 2003 ;35(6):2113-16
385. Dandel M, Knollmann F, Wellnhofer E et al. Noninvasive strategy for early prediction of transplant coronary arteriopathy and timing of coronary angiographies in heart transplant recipients. Frontiers in Coronary Artery Disease Lewis BS, Halon DA, Flugelman MY, Gensini GF. eds., Monduzi Editore, International Proceedings Division, Bologna, 2003:327-32
386. Dandel M, Knollmann F, Wellnhofer E et al. Nichtinvasive Überwachungsstrategie nach Herztransplantation zur frühen Identifizierung der Patienten mit Koronarstenosen.
Cardio News 2004;7(2): 45-46