

TOPICS OF DIPLOM WORK
Semmelweis University
Heart Center - Cardiology Department
(2010/2011)

1. Evaluation of the mechanisms and non-pharmacological treatment of arrhythmias.
(Prof. Béla Merkely M.D., Ph.D., D.Sc.)
2. Demonstration of inflammation processes in atherosclerotic plaques of coronaries.
(Prof. Béla Merkely M.D., Ph.D., D.Sc.)
3. Resynchronisation therapy of chronic heart failure – actual questions.
(Prof. Béla Merkely M.D., Ph.D., D.Sc.; Valentina Kutiyfa M.D.)
4. Possible cardiac indications of MRI examination.
(Prof. Béla Merkely M.D., Ph.D., D.Sc.; Hajnalka Vágó M.D., Ph.D.)
5. Sudden cardiac death and sport.
(Prof. Béla Merkely M.D., Ph.D., D.Sc.; György Bárczi M.D., assistant lecturer)
6. The role of tissue Doppler echocardiography in cardiac resynchronisation therapy.
(Prof. Béla Merkely M.D., Ph.D., D.Sc.; Valentina Kutiyfa M.D.)
7. Differentiation of physiological and pathological left ventricular hypertrophy and remodelling in dynamic and static sports in competitive sportmen.
(Astrid Apor M.D., assistant lecturer; Valentina Kutiyfa M.D.)
8. Non-invasive diagnostic imaging of vascular system.
(György Balázs M.D., senior lecturer)
9. Antithrombotic treatment after percutaneous coronary intervention.
(György Bárczi M.D., assistant lecturer)
10. Modern treatment of acute coronary syndrome.
(Dávid Becker M.D., Ph.D., senior lecturer)
11. Factors influencing mortality of patients with acute coronary syndrome.
(Dávid Becker M.D., Ph.D., senior lecturer)
12. Etiology of restenosis and reocclusion after catheter-interventions.
(Dávid Becker M.D., Ph.D., senior lecturer)
13. Ablation treatment of cardiac arrhythmias: new indications, new techniques.
(László Gellér M.D., Ph.D., senior lecturer)
14. Invasive catheter techniques for improvement of efficacy of resynchronisation therapy.
(László Gellér M.D., Ph.D., senior lecturer)
15. Invasive radiological methods for treatment of complications of non-pharmacological cardiological interventions.
(László Gellér M.D., Ph.D., senior lecturer)
16. Endovascular treatment of aortic aneurysms.

(Prof. Kálmán Hüttl M.D., Ph.D.)

17. Complications of the interventional treatment of stenotic aortic branches.
(Prof. Kálmán Hüttl M.D., Ph.D.); Balázs Nemes M.D., senior lecturer)
18. Diagnostics and treatment of renal artery stenosis?
(Prof. Kálmán Hüttl M.D., Ph.D.)
19. Significance of interventional treatment in lower limb diabetic angiopathy.
(Prof. Kálmán Hüttl M.D., Ph.D.)
20. Indication and technology of endovascular treatment in internal carotid artery and vertebral artery.
(Prof. Kálmán Hüttl M.D., Ph.D.)
21. Treatment of vascular malformations.
(Prof. Kálmán Hüttl M.D., Ph.D.)
22. Treatment of vascular injuries.
(Prof. Kálmán Hüttl M.D., Ph.D.)
23. Role of CT and MR angiography in diagnostics of major vessel malformations.
(Prof. Kálmán Hüttl M.D., Ph.D.)
24. Short- and long-term follow-up of percutaneous catheter interventions on left main stem.
(Zoltán Jambrik M.D., assistant lecturer)
25. Endothelial progenitor cell-recipient stent in coronary intervention.
(Zoltán Jambrik M.D., assistant lecturer)
26. Treatment of in-stent restenosis with drug-eluting balloon.
(Zoltán Jambrik M.D., assistant lecturer)
27. Investigation of extravascular pulmonary oedema with non-invasive methods.
(Zoltán Jambrik M.D., assistant lecturer)
28. Options for improvement of myocardial contractile function in different clinical conditions.
(Violetta Kékesi Ph.D., associate professor)
29. Interactions of cardioactive agents: investigations on isolated, perfused hearts.
(Violetta Kékesi Ph.D., associate professor)
30. Endogenous regulatory agents in the human pericardium.
(Violetta Kékesi Ph.D., associate professor)
31. Effects of peptidergic endogenous regulatory agents: investigations on isolated coronary resistance vessels.
(Violetta Kékesi Ph.D., associate professor)
32. Investigation of mechanisms of coronary effects of acetylcholine on isolated heart and vessels.
(Violetta Kékesi Ph.D., associate professor)

33. Coronary effect of calcium ionophors in intact, inhibited endothel function and denuded vessels.
(Violetta Kékesi Ph.D., associate professor)
34. Effect of Ca ionophor agents in vascular smooth muscle cells: role of intracellular Ca compartments.
(Violetta Kékesi Ph.D., associate professor)
35. In vivo animal models in investigation of ischemic stroke.
(Prof. Zoltán Nagy M.D., Ph.D., D.Sc.)
36. Role of MMP-9 in evolution of reperfusional cerebral damage.
(Prof. Zoltán Nagy M.D., Ph.D., D.Sc.)
37. Cardiogenic stroke. Mechanisms, diagnostics and treatment in everyday clinical practice.
(Prof. Zoltán Nagy M.D., Ph.D., D.Sc.)
38. Association of cerebral cardiac originated hypoperfusion and vascular dementia.
(Prof. Zoltán Nagy M.D., Ph.D., D.Sc.)
39. Home monitoring of cardiac patients with telecare information system, Laplace mapping by 64-channel ECG.
(Prof. Zoltán Nagy M.D., Ph.D., D.Sc.)
40. Investigation of cerebral plasticity with 128-channel EEG.
(Prof. Zoltán Nagy M.D., Ph.D., D.Sc.)
41. Stent-implantation in superior caval vein syndrome.
(Balázs Nemes M.D., senior lecturer)
42. Investigation of epinephrin-induced thrombocyte aggregation in stent implanted STEMI-patients.
(Judit Skopál Ph.D. scientific advisor)
43. Web-based work in the medical science.
(Pál Soós M.D., Ph.D.)
44. Investigation of pathomechanism of thrombocyte aggregation.
(Pál Soós M.D., Ph.D.; László Kóhidai M.D., Ph.D., associate professor)
45. Tissue engineering in the heart.
(Pál Soós M.D., Ph.D.)
46. Role of chemotaxis in patomechanism of thrombocyte aggregation.
(Pál Soós M.D., Ph.D.; László Kóhidai M.D., Ph.D., associate professor)
47. Investigation of cardiac endogenic function in ischemic heart model.
(Pál Soós M.D., Ph.D.)
48. Gene based detection of right ventricular remodelling.

(Zsolt Szelid M.D., Ph.D., assistant lecturer)

49. Genetic prognostic markers of myocardial ischaemia and infarction.
(Zsolt Szelid M.D., Ph.D., assistant lecturer)
50. Genetic polymorphism studies in heart failure patients.
(Zsolt Szelid M.D., Ph.D., assistant lecturer)
51. Genetic polymorphisms associated with the cardiovascular system in Olympic waterpolo players.
(Zsolt Szelid M.D., Ph.D., assistant lecturer)
52. Impact of genetic diagnostics on the treatment of heart failure patients.
(Zsolt Szelid M.D., Ph.D., assistant lecturer)
53. Examination of inflammation processes after ablational treatment of arrhythmias.
(Gábor Széplaki M.D., Ph.D.)
54. Role of inflammation processes in formation of sport heart.
(Gábor Széplaki M.D., Ph.D.)
55. Role of inflammation in pathomechanism of heart failure.
(Gábor Széplaki M.D., Ph.D.)
56. Role of inflammation in pathomechanism of atherosclerosis.
(Gábor Széplaki M.D., Ph.D.)
57. MRI examination of heart.
(Attila Tóth M.D., assistant lecturer, Hajnalka Vágó M.D., Ph.D.)
58. Cardiac examination of competitive sportmen.
(Attila Tóth M.D., assistant lecturer, Hajnalka Vágó M.D., Ph.D.)
59. New method for characterization of heart muscle with cardiac MRI.
(Attila Tóth M.D., assistant lecturer, Hajnalka Vágó M.D., Ph.D.)
60. Pathomechanism, diagnostic and treatment of acute heart failure and cardiogen shock. Comparative study on outcome of the effect of invasive haemodinamical examinations in heart failure patients.
(Dr. Zima Endre Ph.D., egyetemi adjunktus)
61. Factors of the in- and out-hospital resuscitation. Investigation of intensive and invasive methods of treatment of succesfully resuscitated patients.
(Dr. Zima Endre Ph.D., egyetemi adjunktus)
62. Investigation of cardio-renal syndrome and acute liver failure related to acute cardiac diseases: diagnosis, risk-stratification and treatment options.
(Dr. Zima Endre Ph.D., egyetemi adjunktus)
63. Prevention, treatment options of contrast medium-induced nephropathy related to percutan coronary and peripheral vascular interventions.
(Dr. Zima Endre Ph.D., egyetemi adjunktus, Dr. Molnár Levente egyetemi tanársegéd)
64. Investigation of telecardiological monitoring options in pacemaker and ICD patients.
(Dr. Zima Endre Ph.D., egyetemi adjunktus)

65. Periprocedural pharmacological treatment at elective and acute percutan coronary intervention and preoperative surgical preparation strategies.
(Dr. Zima Endre Ph.D., egyetemi adjunktus)
66. Efficacy of inotropic agents in experimental ischaemia-reperfusion of the failing heart.
(Dr. Zima Endre Ph.D., egyetemi adjunktus)
67. Options for closure of atrial septum defects by catheter.
(Prof. Péter Andréka M.D., Ph.D.)
68. Percutaneous closure options for ASD-patients.
(Prof. Péter Andréka M.D., Ph.D.)
69. Modern pacemaker therapy. Survival and quality of life.
(Prof. András Böhm M.D., Ph.D., D.Sc.)
70. Cardiovascular prevention.
(Sarloita Borbás M.D.)
71. Hybrid electric cardioversion.
(József Borbola M.D., Ph.D.)
72. Silent myocardium ishaemia.
(Margit György M.D., senior lecturer)
73. Right heart function: cardiological and surgical aspects.
(Prof. István Hartyánszky M.D., Ph.D.; Prof. Krisztina Kádár M.D., Ph.D.)
74. Analysis of outcome of the coronary transfer surgery.
(Prof. István Hartyánszky M.D., Ph.D.; Prof. Krisztina Kádár M.D., Ph.D.)
75. Outcome-influencing factors in primary percutan coronary intervention: role of the transradial approach
(Dr. Hizoh István Ph.D., c. egyetemi docens)
76. Use of verapamil during transradial coronarography and intervention. Is it necessary?
(Dr. Hizoh István Ph.D., c. egyetemi docens)
77. Door-to-balloon time and duration of hospitalization in transradial primary coronary intervention.
(Dr. Hizoh István Ph.D., c. egyetemi docens)
78. Pathology and prognosis of ST-elevating myocardial infarctus on the base of „Pilóta” Infarct Register data.
(Prof. András Jánosi M.D., Ph.D., D.Sc.)
79. Pathology and prognosis of non-ST-elevating myocardial infarctus on the base of „Pilóta” Infarct Register data.
(Prof. András Jánosi M.D., Ph.D., D.Sc.)
80. Non-invasive diagnosis and follow-up of heart diseases in childhood and infancy.
(Prof. Krisztina Kádár M.D., Ph.D.)

81. Long-term follow-up of the Kawasaki disease.
(Prof. Krisztina Kádár M.D., Ph.D.)
82. Non-pharmacological treatment of atrial fibrillation: medium- and long-term results.
(Attila Kardos M.D., Ph.D., senior lecturer)
83. Isolation of vena pulmonalis by cryoballoon in the treatment of paroxysmal atrial fibrillation.
(Attila Kardos M.D., Ph.D., senior lecturer)
84. Post-infarction angina.
(Prof. Mátyás Keltai M.D., Ph.D., D.Sc.)
85. Prehospital treatment of acute coronary syndrome.
(Prof. Mátyás Keltai M.D., Ph.D., D.Sc.)
86. Activation and inhibition of thrombocytes in coronary atherothrombosis.
(Róbert Gábor Kiss M.D., Ph.D., honorary associate professor)
87. Treatment of chronic heart failure.
(Attila Mohácsi M.D., Ph.D., honorary associate professor)
88. Antithrombotic therapy in patients after coronary intervention.
(Attila Mohácsi M.D., Ph.D., honorary associate professor)
89. Modern treatment of heart failure.
(Noémi Nyolcas M.D., Ph.D., senior lecturer)
90. Relationship of changes in mitral regurgitation, left ventricular reverse remodelling and survival in chronic systolic heart failure-patients.
(Noémi Nyolcas M.D., Ph.D., senior lecturer)
91. Comparison of left ventricular reverse remodelling after cardiac resynchronization and optimal pharmacological treatment in chronic systolic heart failure.
(Noémi Nyolcas M.D., Ph.D., senior lecturer)
92. Endothel function in coronary disease.
(Prof. István Préda M.D., Ph.D., D.Sc.)
93. The role of multidetector CT examination in diagnostics of heart diseases.
(Prof. István Préda M.D., Ph.D., D.Sc.)
94. The diagnostic role of the CT investigations in cardiology.
(Prof. István Préda M.D., Ph.D., D.Sc.)
95. The role of the psychosocial factors in the outcome of heart surgical interventions.
(Andrea Székely M.D., Ph.D.)
96. Risk-evaluation after heart surgical interventions in childhood.
(Andrea Székely M.D., Ph.D.)
97. Echocardiographic examination of right ventricular function.
(András Temesvári M.D., Ph.D.)

98. Primer pulmonalis hypertonia.
(András Temesvári M.D., Ph.D.)
99. Echocardiographic indications and conditions of resynchronization therapy.
(András Temesvári M.D., Ph.D.)
100. Arrhythmia and heart failure in adults after reconstruction of Fallot-tetralogy..
(András Temesvári M.D., Ph.D.)
101. 3D echocardiography.
(András Temesvári M.D., Ph.D.)
102. Incidence, clinical course and characteristics of infective endocarditis of nosocomic origin.
(Zsuzsa Wladika M.D., Ph.D.)