

Contents

Early Years of Development of Artificial Organs: Lessons Learned and Future Visions <i>W. J. Kolff, S. Jacob</i>	3
Current Advances in Robotic Heart Surgery and Nanotechnology <i>R. E. Michler, P. Kwiatkowski</i>	14
Towards Optimal Control of Blood Flow in Artificial Hearts <i>S. Tavoularis, A. Sahrapour, N. U. Ahmed, A. Madrane, R. Vaillancourt</i>	20
A Neural Network-Based Controller for an Artificial Heart <i>M. J. Conlon, D. L. Russell, T. Mussivand</i>	32
Treatment of Hyperkalemia with High Dose Intravenous Insulin during Extracorporeal Circulation <i>H. Kocoglu, S. Goksu, S. Pence, B. Soykan, N. Yilmaz, T. Kocak</i>	40
Ultrasonic Dimension Transducer for Perioperative Monitoring of Left Ventricular Contractility <i>S. Tatebe, M. Nakazawa, M. J. Davies, V. T. Tsang, M. J. Elliott</i>	44
Keeping the Slime off the Table Preventing Infection of Artificial Devices <i>R. Saginur</i>	47
Myocardial Perfusion during Simultaneous Antegrade/Retrograde Cardioplegia <i>G. Tian, B. Xiang, G. Dai, J. Sun, J. Docherty, R. Mangat, T. A. Salerno, R. Deslauriers</i>	50
Impact of Crystalloid HTK and St. Thomas' Cardioplegia on Myocardial Fluid Balance and Postcardioplegic Stunning <i>H. H. Sauer, S. J. Allen, G. A. Laine</i>	58
A Modified, Extracellular-Type, University of Wisconsin Solution Results in Complete Recovery of Pig Hearts after 12-Hour Hypothermic Preservation <i>G. Tian, B. Xiang, G. Dai, J. Sun, W. G. Lindsay, R. Deslauriers</i>	66
The Application of Fluids Based Technology for Perfusion Preservation of Adult, Human Sized, Canine Hearts <i>L. Bunegin, J. F. Gelineau</i>	73
Bioline or Safeline Treatment of CPB Circuits? <i>R. Feyrer, F. Harig, R. Cesnjevar, O. Faïdi Mahmoud, H. Parsch, M. Doreth, T. Fischlein, M. Weyand</i>	79
Extracorporeal Membrane Oxygenation Following Pulmonary Artery Rupture from Swan-Ganz Catheter Insertion <i>A. M. Fabricius, N. Doll, J. Onnasch, F. W. Mohr</i>	85
Zero-Balanced Hemofiltration during and after Cardiopulmonary Bypass in Pigs Results in a Reduction of Plasma Cytokine Levels with no Associated Effects on Cardiorespiratory Function <i>G. P. Eising, H. Schad, W. Heimisch, A. Bernhard-Abt, U. Ettner, E. Schäffer, P. Tassani, N. Mendler, R. Lange</i>	87
Myocardial Fatty Acid Uptake in Patients with Severe Aortic Stenosis and Left Ventricular Dysfunction: Effects of Corrective Surgery and Long-term Follow-up Study <i>G. Notohamiprodjo, H. Meyer, R. Körfer</i>	94
The "Virtual Patient" as a Calibration Tool for Multicentric Quality Assessment <i>U. Tochtermann, B. R. Osswald, G. Thomas, I. Carl, C. F. Vahl, S. Hagl</i>	104
A VAD in the Right Circulation of Patients with Univentricular Hearts: An Animal Model <i>Y. d'Udekem d'Acoz, O. Van Caenegem, L. Jacquet, E. Legrand, D. Thiry, J. Rubay, P. Noirhomme</i>	109
Computerized Image Analysis in the Quantitative Assessment of Interstitial Fibrosis Late after Correction of Tetralogy of Fallot <i>T. H. F. Peters, H. S. Sharma, A. J. J. C. Bogers</i>	114