

REFERENCES

1. **Zinchuk VV, Dobrodeř MA, Lis MA (2008).** Characteristics of the blood oxygen transport function in patients with angina pectoris receiving treatment correcting the L-arginine-NO pathway. *Fiziol Cheloveka*; 34(2): 136-8.
2. **Zhou H, Lai N, Saidel GM, Cabrera ME (2008).** Multi-scale model of O₂ transport and metabolism: response to exercise. *Ann N Y Acad Sci*; 1123: 178-86.
3. **Goldman D, Bateman RM, Ellis CG (2004).** Effect of sepsis on skeletal muscle oxygen consumption and tissue oxygenation: interpreting capillary oxygen transport data using a mathematical model. *Am J Physiol Heart Circ Physiol*; 287(6): H2535-44.
4. **Moore EE, Johnson JL, Moore FA, Moore HB (2009).** The USA Multicenter Prehospital Hemoglobin-based Oxygen Carrier Resuscitation Trial: scientific rationale, study design, and results. *Crit Care Clin*; 25(2): 325-56
5. **Sullivan JP, Gordon JE, Bou-Akl T, Matthew HW, Palmer AF (2007).** Enhanced oxygen delivery to primary hepatocytes within a hollow fiber bioreactor facilitated via hemoglobin-based oxygen carriers. *Artif Cells Blood Substit Immobil Biotechnol*; 35(6): 585-606.
6. **Pape A, Habler O (2007).** Alternatives to allogeneic blood transfusions. *Best Pract Res Clin Anaesthesiol*; 21(2): 221-39.

7. **Hare GM, Hum KM, Kim SY, Barr A, Baker AJ, Mazer CD (2004).** Increased cerebral tissue oxygen tension after extensive hemodilution with a hemoglobin-based oxygen carrier. *Anesth Analg*; 99(2): 528-35.
8. **Yoshizu A, Izumi Y, Park S, Sakai H, Takeoka S, Horinouchi H, Ikeda E, Tsuchida E, Kobayashi K (2004).** Hemorrhagic shock resuscitation with an artificial oxygen carrier, hemoglobin vesicle, maintains intestinal perfusion and suppresses the increase in plasma tumor necrosis factor-alpha. *ASAIO J*; 50(5): 458-63.
9. **Smani Y, Faivre B, Audonnet-Blaise S, Labrude P, Vigneron C (2005).** Hemoglobin-based oxygen carrier distribution inside vascular wall and arterial pressure evolution: is there a relationship? *Eur Surg Res*; 37(1): 1-8.
10. **Chang TM (2005).** The role of artificial cells in cell and organ transplantation in regenerative medicine. *Panminerva Med*; 47(1): 1-9.
11. **Cheung AT, Duong PL, Driessen B, Chen PC, Jahr JS, Gunther RA (2006).** Systemic function, oxygenation and microvascular correlation during treatment of hemorrhagic shock with blood substitutes. *Clin Hemorheol Microcirc*; 34(1-2): 325-34.
12. **Nahmias Y, Kramvis Y, Barbe L, Casali M, Berthiaume F, Yarmush ML (2006).** A novel formulation of oxygen-carrying matrix enhances liver-specific function of cultured hepatocytes. *FASEB J*; 20(14): 2531-3.

13. **Estep TN (2007).** Expectations and implications of blood sparing with hemoglobin based oxygen carriers. *Artif Cells Blood Substit Immobil Biotechnol*; 35(1): 93-105.
14. **Philbin N, Handrigan M, Rice J, McNickle K, McGwin G, Williams R, Warndorf M, Arnaud F, Malkevich N, McCarron R, Freilich D (2007).** Resuscitation following severe, controlled hemorrhage associated with a 24 h delay to surgical intervention in swine using a hemoglobin based oxygen carrier as an oxygen bridge to definitive care. *Resuscitation*; 74(2): 332-43.
15. **Winslow RM (2008).** Cell-free oxygen carriers: scientific foundations, clinical development, and new directions. *Biochim Biophys Acta*; 1784(10): 1382-6.
16. **Han J, Yu M, Dai M, Cui P, Li H, Zhang J, Liu Q, Xiu R (2008).** Effect of artificial oxygen carrier with chemotherapy on tumor hypoxia and neovascularization. *Artif Cells Blood Substit Immobil Biotechnol*; 36(5): 431-8.
17. **Fronticelli C, Koehler RC (2009).** Design of recombinant hemoglobins for use in transfusion fluids. *Crit Care Clin*; 25(2): 357-71.
18. **Taguchi K, Urata Y, Anraku M, Maruyama T, Watanabe H, Sakai H, Horinouchi H, Kobayashi K, Tsuchida E, Kai T, Otagiri M (2009).** Pharmacokinetic study of enclosed hemoglobin and outer lipid component after the administration of hemoglobin vesicles as an artificial oxygen carrier. *Drug Metab Dispos*; 37(7): 1456-63.

19. **King DR, Cohn SM, Proctor KG (2005).** Resuscitation with a hemoglobin-based oxygen carrier after traumatic brain injury. *J Trauma*; 59(3): 553-60
20. **Cabrales P, Sakai H, Tsai AG, Takeoka S, Tsuchida E, Intaglietta M (2005).** Oxygen transport by low and normal oxygen affinity hemoglobin vesicles in extreme hemodilution. *Am J Physiol Heart Circ Physiol*; 288(4): H1885-92.
21. **Sou K, Klipper R, Goins B, Tsuchida E, Phillips WT (2005).** Circulation kinetics and organ distribution of Hb-vesicles developed as a red blood cell substitute. *J Pharmacol Exp Ther*; 312(2): 702-9.
22. **Valeri CR, Ragno G, Veech RL (2006).** Effects of the resuscitation fluid and the hemoglobin based oxygen carrier (HBOC) excipient on the toxicity of the HBOC: Ringer's D,L-lactate, Ringer's L-lactate, and Ringer's ketone solutions. *Artif Cells Blood Substit Immobil Biotechnol*; 34(6): 601-6.
23. **Yang ZJ, Price CD, Bosco G, Tucci M, El-Badri NS, Mangar D, Camporesi EM (2008).** The effect of isovolemic hemodilution with oxycyte, a perfluorocarbon emulsion, on cerebral blood flow in rats. *PLoS One*; 3(4): e2010.
24. **Yu B, Raher MJ, Volpato GP, Bloch KD, Ichinose F, Zapol WM (2008).** Inhaled nitric oxide enables artificial blood transfusion without hypertension. *Circulation*. 2008; 117(15): 1982-90.

25. **Akainsg AI, Fratantoni JC, Bonaveiitura C. Bonaventiira J, and Cashon RE (2003).** Nitric oxide binding to human fern-hemoglobins cross-linked between either or subunits. Arch Biochem Biophys 303: 332-338.
26. **Guyton AC (2001).** Red blood Cell, Anemia, poly-cythemia. In Textbook of Medical physiology 8th ed. Guyton. AC (Ed.) HBJ I.E. W.B Saimders Company, London 32: 356.
27. **Keipert PE, Adeniran AJ, and Benesch RE (1999).** Functional properties of a new cross-linked hemoglobin designed for use as a red cell substitute. Transfusion 29: 768.
28. **Alter HJ, Hadler SC, and Judson FN (2000).** Risk factors for acute non-A non-B hepatitis post transfusion. JAMA 264: 2231.
29. **Von Hufner (2004).** Neue versuche zur bestimmug dert sausertst off capcitah des blut forbstoffs. Archiv fur Anatomie and Physiologie Abt: 130.
30. **Guyton AC and Hall JEP (1996).** Red blood cells, anemia, and polycythemia, Chapter 32, Pp. 425-433, In: Textbook of Medical Physiology. (Guyton AC and Hall JEP, Eds.) Ninth edition, Pennsylvania. WB Saimders Company.
31. **Murray JF and Nadel J (2006).** Respiratory Medicine, Saunders.
32. **Cilley RE, Scharenberg AM, and Bongio RNO PF (2001).** Independent measurement of oxygen consumption and oxygen delivery, J Surg Res; 47: 242.

- 33. Timothy W and Putter Kevin K (2005).** Hemorrhage, blood volume and the physiology of oxygen transport. In; A practice of anesthesia 6th ed, Wylie and Churchill-Davidson's (Eds.), Churchill Livingstone. New York 19: 365.
- 34. Nieuwoudt M, Engelbrecht GH, Sentle L, Auer R, Kahn D, van der Merwe SW (2009).** Non-toxicity of IV injected perfluorocarbon oxygen carrier in an animal model of liver regeneration following surgical injury. *Artif Cells Blood Substit Immobil Biotechnol*; 37(3): 117-24.
- 35. Alter MJ, Pascell RM, and Shift JW (1999).** Detection of antibody C virus in prospectively followed transfusion recipients with acute and chronic non-A, non-B hepatitis. *New England Journal of Medicine* 321: 1494.
- 36. Bell MR, Mshimura RA, Holmes DR Jr, Bailey KR, Schwart RS, and Vlietstra RE (2002).** Does intra-coronary infusion of Fluosol DA 20% prevent left ventricular diastolic dysfunction during coronary balloon angioplasty? *J Am College Cardiol* 16 (4): 959-966.
- 37. Asanuma H, Nakai K, Sanada S, Minamino T, Takashima S, Ogita H, Fujita M, Hirata A, Wakeno M, Takahama H, Kim J, Asakura M, Sakuma I, Kitabatake A, Hori M, Komamura K, Kitakaze M (2007).** S-nitrosylated and pegylated hemoglobin, a newly developed artificial oxygen carrier, exerts cardioprotection against ischemic hearts. *J Mol Cell Cardiol*; 42(5): 924-30.

38. **Philips GR, Kauder DR, and Schwab CW (2004).** Massive blood loss in trauma patients. The benefits and dangers of transfusion therapy. *Postgrad Med*; 95: 61.
39. **Looker D, Brown DA, and Cozart P (2002).** A human recombinant hemoglobin designed for use as a blood substitute. *Nature*; 35: 258.
40. **Vlahakes GJ, Lee R, and Jacobs EE Jr (1990).** Hemodynamic effects and oxygen transport properties of a new blood substitute in a model of massive blood replacement. *J Thorac Cardiovasc Surg*; 100: 379.
41. **Bunn HF (2001):** The use of emoglobm as a "blood substitute". *Am J Hematol*; 42: I 12-117.
42. **Kumar R (1995).** Recombinant hemoglobin as blood substitutes: a biotechnology perspective. *Proc Soc Exp Biol Med*; 208: 150-158.
43. **Benesch R, Benesch RE, and Kwong S (1998).** Labeling of hemoglobin with pyridoxal phosphate. *J Biol Chem*; 257: 1320.
44. **Blecker WK, Vanderplas J, and Agterberg J (1996).** Prolonged vascular retention of a hemoglobian solution modified by intramolecular cross-linking with 2-nor-2-formyl pyridoxal 5-phosphate. *J Lab Clin Mod*; 108: 448.
45. **Feola A, Simoni J, and Angelillo R (2002).** Clinical trial of a hemoglobin-based blood substitute in patients with sickle cell anemia. *Surg Gynecol Obstet*; 174: 379-338.
46. **Chang TM (2004).** Future prospects for artificial blood. *Trends Biotechnol*; 17 (2): 61-67.

- 47. Longnecher D, and Mickler TA (1996).** International practice of anesthesia, Roberts CP, Brown BR- (Eds.), Butterworth-Heinemann, New York 45: 1.
- 48. Plock JA, Contaldo C, Sakai H, Tsuchida E, Leunig M, Banic A, Menger MD, Erni D (2005).** Is hemoglobin in hemoglobin vesicles infused for isovolemic hemodilution necessary to improve oxygenation in critically ischemic hamster skin? *Am J Physiol Heart Circ Physiol*; 289(6): H2624-31.
- 49. Cole DJ, Drummond JC, Patel PM, and Reynolds LR (2001).** Hypervolemic-hemodilution during cerebral ischemia in rats: effect of dapsirin cross-linked hemoglobin (DCLHb) on neurologic outcome and infarct volume. *J Neurosurg Anesthesiol* 9: 44-50.
- 50. Cherfas J (2005).** Mad cow disease. *Science*; 249: 1492-98.
- 51. Devabhaktuni VG, Torres A Jr, and Wilson S (1999).** Effect of nitric oxide, perfluorocarbon, and heliox on minute volume measurement and ventilator volumes delivered. *Critical Care Medicine*; 27 (8): 160S-1607.
- 52. Faithfull S (2002).** Oxygen delivery from fluorocarbon emulsions- aspects of convective and diffusive transport. *Biomater Artif Cells Immobil Biotechnol*; 20: 797-804.
- 53. Dietz NM, Joyner MJ, and Warner MA (2006).** Blood substitutes: fluids, drugs, or miracle solutions? *Anesth Analg*; 82: 390-405.

- 54. Yu WP, and Chang TM (2004).** Sub-micron bio-degradable polymer membrane hemoglobin nano-capsules as potential blood substitutes: a preliminary report. *Artif Cells Blood Substit Immobil Biotechnol*; 22: 889-893.
- 55. Chang TMS, and Yu WP (2005).** Nano-encapsulation of hemoglobin and red blood cell enzymes based on nano-technology and biodegradable polymer. In: Chang TMS. (Ed) *Blood substitutes: Principles, Methods, Products and Clinical Trials*. Basel: Karger Landes Systems. pp 216-231.
- 56. Finch CA, and Lenfant C (1982).** Oxygen transport in man. *N Engl J Med* 286: 407.
- 57. Rudolph AS, Cliff R, and Kwasiborski V (1997).** Liposome-encapsulated hemoglobin modulates lipo-polysaccharide-induced tumor necrosis factor-alpha production in mice. *Crit Care Med*; 25: 460-468.
- 58. Homer LD, Weathersby PK, and Kiesow SF (1991).** Oxygen gradients between red blood cells in the microcirculation. *Microvasc Res*; 22: 308-323.
- 59. Vandegriff KD, Wallach DFH, and Winslow RM (2004).** Encapsulated hemoglobin in non-phospholipid vesicles. *Artif Cells Blood Substit Immobil Biotechnol*; 22 (3): 849-854.
- 60. Shumacker PT, Log GR, and Wood LDH (2005).** Tissue oxygen extraction during hypovolemia Role of hemoglobin P50. *J Appl Physiol*; 62: 1801 -1807.

- 61. Eldridge J, Russell R, Cliristenson R, Sakamoto R, Parr M, Trump B, and Delancy P (2006).** Liver function and morphology after resuscitation from severe hemorrhagic shock with hemoglobin solutions or autologous blood, Crit Care Med; 24: 663-671.
- 62. Takeoka S, Oligushi T, and Sakai H (1997):** Construction of artificial met-hemoglobin reductase systems in Hb vesicles. Artif Cells Blood Substit Immobil Biotechnol; 25: 31-41.
- 63. Hess JR, Mac Donald VW, and Brinkley WW (2003).** Systematic and pulmonary hypertension after resuscitation with cell-free hemoglobin. J Appi Physiol; 74: 7 769-1778.
- 64. Gardiner SM, Compton AM, and Bennett T (1999).** Regional hemodynamic effects of endothelin-2 and sarafotoxin-S6b in conscious rats. Am J Physiol; 258: R912-R917.
- 65. Mark RF, Adrian IIC, end David R (2001).** The effects of Diaspinn cross-linked hcmoulobin on the tone of human saphenous vein. Anesh Analg; 92: 324-328.
- 66. Grayburn PA, Weiss JL, Hack TC, Klodas E, Raichlen JS, Vannan MA, and Klein AL (1998).** Phase III multi-center trial comparing the efficacy of 2% dodeca-fluoropentane emulsion (Echogen) and sonicated 5% human albumin (Albunex) as ultrasound contrast agents in patients with sub optimal echocardiograms. J Am College Card; 32 (1): 230-236.

- 67. Hess JR, Mac Donald VW, and Winslow RM (2002).** Dehydration and shock. An animal model of hemorrhage and resuscitation of battlefield injury. *Biomater Artif Cells Immobil Biotechnol*; 20: 499-502.
- 68. Hughes GS, Fruncom SF and Antel EJ (1996).** Effects of novel hemoglobin-based oxygen carrier on percent oxygen saturation as determined with arterial blood gas analysis and pulse oximetry. *Ann Emerg Med*; 27: 164-169.
- 69. Ulatowski JA, Nishikawa T, Bucci E, Traystman RJ, and Kochler (1996).** Regional blood flow alterations after bovine fumaryl cross-linked hemoglobin transfusion and nitric oxide synthase inhibition. *Crit Care Med*; 24: 558-565.
- 70. Sakurai T, Yanagisawa M, and Taniuchi Y (2000).** Cloning of a cDNA encoding a non-isopeptide selective subtype of the endothelin receptor. *Nature*; 348: 732-735.
- 71. Vane JR and Bolting (2001).** Endothelin-derived vaso-active factors and the control of circulation. *Semin Perinatol*; 15: 4-10.
- 72. Janzani K, Ohzeki H, and Moro H (1997).** Effects of partial blood replacement with pyridoxylated hemoglobin polyoxyethylene conjugate solution on transient cerebral ischemia in gerbil. *Artif Cells Blood Substit Immobil Biotechnol*; 25: 105-114.
- 73. Boulanger C and Luscher TF (1997).** Release of endothelin from the porcine aorta, Inhibition of endothelium derived nitric oxide. *J Clin Invest*; 85: 587-590.

- 74. Gitlati A, Sharma AC. and Singh G (2006).** Role of endothelin in the cardiovascular effects of aspirin cross-linked and stroma reduced hemoglobin. *Crit Care Med*; 24: 137-147.
- 75. Schult SC, Hamilton I, and Malcolm DS (1993).** Use of base deficit to compare resuscitation with lactated Ringer's solution, haemaccel, whole blood and aspirin cross-linked hemoglobin following hemorrhage in rats. *J of Trauma*; 35 (4): 619.
- 76. Jia L, Bonaventura J, and Stamler JS (2006).** S-nitroso-hemoglobin, a dynamic activity of blood involved in vascular control. *Nature*; 380: 221-226.
- 77. Chang TMS (2004).** Recent and future developments in modified hemoglobin and microencapsulated hemoglobin as red blood cell substitutes, *Artif Cells Blood Substit Immobil Biotechnol* 25: 1-24.
- 78. Jonathan S.I, Fedor L, Side Xi, and Muhammad G (2001).** A novel approach to measuring circulating blood volume: The use of a hemoglobin-based oxygen carrier in rabbit model. *Anesth Analg*; 92: 609-614.
- 79. Lee R, Atsiami A, Jacobs EE Jr, and Austin W (1989).** Ultrapure, stroma free, polymerized bovine hemoglobin solution: Evaluation of renal toxicity. *J Surg Res*; 47: 407-11.
- 80. Estep TN, Gonder J, Bornstein I, and Aono F (2002).** Immunogenicity of aspirin cross-linked human hemoglobin solutions. *Biomater Artif Cells Immobil Biotechnology*; 20: 603-609.

- 81. Kilmartin JN, and Rossi-Bernardini L (1997).** Interaction of hemoglobin with hydrogen ions, carbon dioxide, and organic phosphates. *Physiol Rev*; 53: 836.
- 82. Winslow RM (1997).** Blood substitutes, 1996 in the literature. Chap. 1. In: *Advances in Blood Substitutes, Industrial Opportunities and Medical Challenges*. Boston.
- 83. Reiss RF, Caballero R, and Hea J (2002).** Effects on x-linked hemoglobin in vitro platelet function. *Biomater Artif Cells Immobil Biotechnol*; 20: 651-655.
- 84. Malhotra V, Nwogu J, Bondmass MD, Bean M, Bieniarz F, Tertell M, Conliss M, and Deyries S (2000).** Is the technically limited echocardiographic study an endangered species? Endocardial border definition with native tissue harmonic imaging and Optison contrast: a review of 200 cases. *Journal of the American Society of Echocardiography*; 13 (8): 771- 773.
- 85. Menasche P, Pleury JP, and Piwnica A (2002).** Fluoro-carbons: a potential treatment of cerebral air embolism in open-heart surgery. *Ann Thorac Surg*; 54: 392-393.
- 86. Langermans JA, van Vuren-van der Hulst M, and Bleeker WK (1996).** Safety evaluation of a polymerized hemoglobin solution in a murine infection model. *J Lab Clin Med*; 127: 428-434.
- 87. Pelura TJ, Johnson CS, and Tarara TE (2002).** Stabilization of Perflubron emulsions with egg yolk phospholipid. *Biomater Artif Cells Immobil Biotechnol*; 20: 845-848.

- 88. D'Agnillo F. and Chang TM (1999).** Reduction of hydroxyl radical generation in a rat hind limb model of ischemia-reperfusion injury using cross-linked hemoglobin-superoxide dismutase-catalase. *Artif Cells Blood Substit Immobil Biotechnol*; 25: 163-180.
- 89. Ma Z, Monk TG, and Goodnough LT (1997).** Effect of hemoglobin- and Perflubron-based oxygen carriers on common clinical laboratory tests. *Clin Chem*; 43: 1732-1737.
- 90. Remy B, Deby-Dupont G, and Lamy M (2001).** Red blood cell substitutes: Perfluorocarbon emulsions and hemoglobin solutions. *British Medical Bulletin*; 55 (I): 277-298.
- 91. Klein HG (2000).** The prospects for red-cell substitutes. *N Engl J Med* 2000; 342: 1666–8.
- 92. Chang TMS (2000).** Red blood cell substitutes. *Best Practice Res Clin Haematol*; 13: 651–68.
- 93. Winslow RM (2000).** Blood substitutes. *Adv Drug Deliv Rev*; 40: 131–42.
- 94. Chang TMS (2002).** Oxygen carriers. *Curr Opin Invest Drugs*; 3: 1187–90.
- 95. Squires JE (2002).** Artificial blood. *Science*; 8: 1002–5.

- 96. Gurney J, Philbin N, Rice J, Arnaud F, Dong F, Wulster-Radcliffe M, Pearce LB, Kaplan L, McCarron R, Freilich D (2004).** A hemoglobin based oxygen carrier, bovine polymerized hemoglobin (HBOC-201) versus Hetastarch (HEX) in an uncontrolled liver injury hemorrhagic shock swine model with delayed evacuation. *J Trauma*; 57(4): 726-38.
- 97. Chang TMS (1972).** Artificial Cells. Monograph. Springfield, IL: Charles C Thomas, 1972
- 98. Osgood SL, Jahr JS, Desai P, Tsukamoto J, Driessen B (2005).** Does methemoglobin from oxidized hemoglobin-based oxygen carrier (hemoglobin Glutamer-200) interfere with lactate measurement (YSI 2700 SELECT Biochemistry Analyzer)? *Anesth Analg*; 100(2): 437-9.
- 99. Savitsky JP, Doozi J, Black J, Arnold JD (1978).** A clinical safety trial of stroma free hemoglobin. *Clin Pharm Ther*; 23: 73.
- 100. Chang TMS (1997).** Blood Substitutes: Principles, Methods, Products and Clinical Trials, Vol. 1. Basel: Karger, 1997
- 101. Gould SA, Sehgal LR, Sehgal HL, DeWoskin R, Moss GS (1998).** The clinical development of human polymerized hemoglobin. In: Chang TMS, ed. Blood Substitutes: Principles, Methods, Products and Clinical Trials, Vol. 2. Basel: Karger, 1998; 12–28.
- 102. Gould SA, Moore EE, Hoyt DB et al (1998).** The first randomized trial of human polymerized hemoglobin as a blood substitute in acute trauma and emergent surgery. *J Am Coll Surg*; 187: 113–20.

- 103. Pearce LB, Gawryl MS (1988).** Overview of preclinical and clinical efficacy of Biopure's HBOCs. In: Chang TMS, ed. Blood Substitutes: Principles, Methods, Products and Clinical Trials, Vol. 2. Basel: Karger, 1988; 82–98.
- 104. Sprung J, Kindscher JD, Wahr JA et al (2002).** The use of bovine hemoglobin glutamer-250 (Hemopure) in surgical patients: results of a multicenter, randomized, single-blinded trial. *Anesth Analg*; 94: 799–808.
- 105. Lok C (2001).** Blood product from cattle wins approval for use in humans. *Nature*; 410: 855.
- 106. Adamson JG, Moore C, Hemolink TM (1998).** An o-Raffinose cross-linked hemoglobin-based oxygen carrier. In: Chang TMS, ed. Blood Substitutes: Principles, Methods, Products and Clinical Trials, Vol. 2. Basel: Karger, 1998; 62–79.
- 107. Carmichael FJ (2001).** Recent developments in hemoglobin-based oxygen carriers – an update on clinical trials. *Transfus Apheresis Sci*; 24: 17–21.
- 108. Wong JT (1988).** Rightshifted dextran hemoglobin as blood substitute. *Biomaterials, Artificial Cells Artificial Organs*; 16: 237–45.
- 109. Iwashita Y, Yabuki A, Yamaji K et al (1988).** A new resuscitation fluid 'Stabilized hemoglobin' preparation and characteristics. *Biomaterials Artificial Cells Artificial Organs*; 16: 271–80.

110. **Shorr RG, Viau AT, Abuchowski A (1996).** Phase 1B safety evaluation of PEG hemoglobin as an adjuvant to radiation therapy in human cancer patients. *Artificial Cells Blood Substitutes Immobilization Biotechnol Intern J*; 24: 407.
111. **Kjellstrom T (2002).** Proceedings of the Fourth International Symposium on Current Issues in Blood Substitute Research, 5–8 June 2002, Stockholm, Sweden.
112. **D’Agnillo F, Chang TMS (1998).** Polyhemoglobin–superoxide dismutase. Catalase as a blood substitute with antioxidant properties. *Nature Biotechnology*; 16: 667–71.
113. **Chang TMS, D’Agnillo F, Razack S (1998).** A second generation hemoglobin based blood substitute with antioxidant activities. In: Chang TMS, ed. *Blood Substitutes: Principles, Methods, Products and Clinical Trials*, Vol. 2. Basel: Karger/Texas: Landes; 178–86.
114. **D’Agnillo F, Chang TMS (1997).** Modified hemoglobin blood substitute from cross-linked hemoglobin–superoxide dismutase–catalase. US patent 1997; 5, 606, 025, pp. 1–6.
115. **Powanda D, Chang TMS (2002).** Cross-linked polyhemoglobin–superoxide dismutase–catalase supplies oxygen without causing blood brain barrier disruption or brain edema in a rat model of transient global brain ischemia–reperfusion. *Artificial Cells Blood Substitutes Immob. Biotechnol Intern J*; 30: 25–42.

- 116. Smith ML, Bendek G, Dahlgren N, Rosen I, Wieloch T, Siesjo BK (1984).** Models for studying long-term recovery following fore-brain ischemia in the rat. A 2-vessel occlusion model. *Acta Neurol Scand*; 69: 385–401.
- 117. Buehler PW, Mehendale S, Wang H et al (2000).** Resuscitative effects of polynitroxylated alpha-alpha-cross-linked hemoglobin following severe hemorrhage in the rat. *Free Rad Biol Med*; 29: 764–74.
- 118. Chang TMS (1988).** ‘Hemoglobin Corpuscles’ Report of a research project for Honours Physiology, Medical Library, McGill University 1957. Also reprinted as part of ‘30 anniversary in Artificial Red Blood Cells Research’. *J Biomaterials Artificial Cells Artificial Organs*; 16: 1–9.
- 119. Chang TMS, Poznansky MJ (1968).** Semipermeable microcapsules containing catalase for enzyme replacement in acatalsaemic mice. *Nature*; 218: 242–45.
- 120. Poznansky MJ, Chang TMS (1974).** Comparison of the enzyme kinetics and immunological properties of catalase immobilized by microencapsulation and catalase in free solution for enzyme replacement. *Biochim Biophys Acta*; 334: 103–15.
- 121. Chang TMS, Prakash, S (2001).** Procedure for microencapsulation of enzymes, cells and genetically engineered microorganisms. *Molecular Biotechnology*; 17: 249–60.
- 122. Djordjevich L, Miller IF (1980).** Synthetic erythrocytes from lipid encapsulated hemoglobin. *Exp Hematol*; 8: 584.

123. **Rudolph AS, Rabinovici R, Feuerstein GZ (eds) (1997).** Red Blood Cell Substitutes: Basic Principles and Clinical Applications. New York: Marcel Dekker, Inc., 1997.
124. **Philips WT, Klpper RW, Awasthi VD et al (1999).** Polyethylene glyco- modified liposome-encapsulated hemoglobin: a long circulating red cell substitute. *J Pharm Exp Ther*; 288: 665–70.
125. **Tsuchida E (ed.) (1998).** Blood Substitutes: Present and Future Perspectives. Amsterdam: Elsevier.
126. **Chang TMS (1976).** Biodegradable semipermeable microcapsules containing enzymes, hormones, vaccines, and other biologicals. *J Bioeng*; 1: 25–32.
127. **Yu WP, Chang TMS (1996).** Submicron polymer membrane hemoglobin nanocapsules as potential blood substitutes: preparation and characterization. *Artificial Cells Blood Substitutes Immobilization. Biotechnol Intern J*; 24: 169–84.
128. **Chang TMS, Yu WP (1997).** Biodegradable polymer membrane containing hemoglobin for blood substitutes. US Patent 1997; 5670173.
129. **Chang TMS, Yu WP (1998).** Nanoencapsulation of hemoglobin and rbc enzymes based on nanotechnology and biodegradable polymer. In: Chang TMS, ed. *Blood Substitutes: Principles, Methods, Products and Clinical Trials*. Basel: Karger, 1998, Vol. 2, 216–31.
130. **Chang TMS, Yu WP (2001).** Biodegradable polymeric nanocapsules and uses thereof. US Provisional Patent 2001; No 60/ 316, 001, pp. 1–17.

- 131. Chang TMS, Powanda D, Yu WP (2002).** Biodegradable polymeric nanocapsules and uses thereof. International Patent Application 2002; No PTC/CA02/01331, pp. 1–17.
- 132. Chang TMS, Yu YT, Grunwald J (1982).** Artificial cells immobilized multienzyme systems and cofactors. *Enzyme Eng*; 6: 451–561.
- 133. Cohn SM (1997).** Is blood obsolete? *J Trauma*; 42: 730-732.
- 134. Dansfield DA, Fox WW (1980).** High incidence of apnea with airway obstruction in recovery patients. *Pediatr Res*; 14: 595.
- 135. Björkholm M, Fagrell B, Przybelski R, Winslow N, Young M, Winslow RM (2005).** A phase I single blind clinical trial of a new oxygen transport agent (MP4), human hemoglobin modified with maleimide-activated polyethylene glycol. *Haematologica*; 90(4): 505-15.
- 136. Rigatto H, Brady JP, Verduzco R (1975).** Chemoreceptor reflexes: I. The effect of gestational and postnatal age on the ventilatory response to inhalation of 100% and 15% oxygen. *Pediatrics* 55: 604.
- 137. Rigatto H, Brady JP, Verduzco R (1975).** Chemoreceptor reflexes in preterm patients: II. The effect of gestational and postnatal age-on the ventilator-y response to inhaled carbon dioxide. *Pediatrics* 55: 614.
- 138. Newth CL, Levison H, Bryan AC (1972).** The respiratory status of children with croup. *J. Pediatr.* 81: 1068.

- 139. Malkevich NV, Dong F, Vandermolen CA, Philbin NB, Rice JP, Scultetus A, Hong J, Arnaud F, Hall CH, McGwin G Jr, Pearce LB, Handrigan M, Ahlers S, McCarron RM, Freilich D (2008).** Innate immune response after resuscitation with hemoglobin-based oxygen carrier and recombinant factor VIIA in uncontrolled hemorrhagic shock in a swine model. *J Trauma*. 2008; 64(6): 1498-510.
- 140. Damle SS, Moore EE, Babu AN, Meng X, Fullerton DA, Banerjee A (2009).** Hemoglobin-based oxygen carrier induces heme oxygenase-1 in the heart and lung but not brain. *J Am Coll Surg*; 208(4): 592-8.
- 141. Zhang X, Liu C, Yuan Y, Shan X, Sheng Y, Xu F (2009).** A noninvasive method for measuring the oxygen binding-releasing capacity of hemoglobin-loaded polymeric nanoparticles as oxygen carrier. *J Mater Sci Mater Med*; 20(5): 1025-30.
- 142. Gluck L, Kulovich MV, Eidelman AI, et al (1972).** Biochemical development of surface activity in the mammalian lung: IV. Pulmonary lecithin synthesis in the human fetus and newborn and etiology of the respiratory distress syndrome. *Pediatr Res*; 6: 81-88.
- 143. Gregory GA, Kitterman JA, Phibbs RH, et al (1971).** Treatment of idiopathic respiratory distress syndrome with continuous positive airway pressure. *N. Engl. J. Med*. 284: 1333.
- 144. Friedman WF, Hirschklau MJ, Printz MP, et al (1976).** Pharmacologic closure of patent ductus arteriosus in the premature infant. *N Engl J Med*; 295: 526-566.

- 145. Jacob J, Gluck L, DiSessa T, et al (1979).** The contribution of the PDA in the neonate with severe RDS. *J Pediatr*; 96: 79-88.
- 146. Levin DA, Heymann MA, Kitterman JA, et al (1976).** Persistent pulmonary hypertension of the newborn. *J. Pediatr.* 88: 626-33.
- 147. Bucciarelli RL, Egan EA, Gessner IH, et al (1976).** Persistence of the fetal cardiopulmonary circulation: One manifestation of transient tachypnea of the newborn. *Pediatrics* 58: 192-99.
- 148. Fitzpatrick CM, Savage SA, Kerby JD, Clouse WD, Kashyap VS (2004).** Resuscitation with a blood substitute causes vasoconstriction without nitric oxide scavenging in a model of arterial hemorrhage. *J Am Coll Surg*; 199(5): 693-701.
- 149. Torrance J, Jacobs P, Restrepo A, et al (1970).** Intraerythrocytic adaptation to anemia. *N. Engl. J. Med.* 283: 165-72.
- 150. Woodson RD, Wills RE, Lenfant C (1978).** Effect of acute and established anemia in O₂ transport at rest, submaximal and maximal work. *J Appl Physiol*; 44: 36.
- 151. Finch CA, Lenfant C (1972).** Oxygen transport in man. *N Engl J Med*; 286: 407.
- 152. Harmening DM (1994).** *Modern Blood Banking and Transfusion Practices*, ed 3. Philadelphia: FA Davis, 1994.
- 153. Ross S, Jeter E (1996).** Emergency surgery, trauma and massive transfusion, in Petz LD, Swisher SN, Kleinman S, et al (eds): *Clinical Practice of Transfusion Medicine*, ed 3. New York: Churchill Livingstone, 1996: 563-579.

- 154. Morton TA, Kelen GD (1998).** Hepatitis C. *Ann Emerg Med*; 31: 381-390.
- 155. Busch MP (1996).** Retroviral infections, in Petz LD, Swisher SN, Kleinman S, et al (eds): *Clinical Practice of Transfusion Medicine*, ed 3. New York: Churchill Livingstone, 1996: 823-845.
- 156. Sauaia A, Moore FA, Moore EE, et al (1994).** Early predictors of post injury multiple organ failure. *Arch Surg*; 129: 39-45.
- 157. Moore FA, Moore EE (1995).** Evolving concepts in the pathogenesis of postinjury multiple organ failure. *Surg Clin North Am*; 75: 257-277.
- 158. Patrick DA, Moore EE, Barnett CC, et al (1996).** Human polymerized hemoglobin as a blood substitute avoids transfusion-induced neutrophil priming. *Surg Forum*; 47: 36-38.
- 159. Gould SA, Moss GS (1996).** Clinical development of human polymerized hemoglobin as a blood substitute. *World J Surg*; 20: 1200-1207.
- 160. Viele MK, Weiskopf RB, Fisher D (1997).** Recombinant human hemoglobin does not affect renal function in humans: analysis of safety and pharmacokinetics. *Anesthesiology*; 86: 848-858.
- 161. Kroeger KS, Kundrot CE (1997).** Structure of a hemoglobin-based blood substitute: insights into the function of allosteric proteins. *Structure*; 5: 227-237.

- 162. Usuba A, Motoki R (1997).** Effect of liposome encapsulated hemoglobin “neo red cells” on severe hemorrhagic shock. *Artif Cells Blood Substit Immobil Biotechnol*; 25: 379-392.
- 163. Bowes MP, Burhop KE, Zivin JA, et al (1994).** Diaspirin-crosslinked hemoglobin improves neurological outcome following reversible but not irreversible CNS ischemia in rabbits. *Stroke*; 25: 2253-2257.
- 164. Cole DJ, Drummond JC, Patel PM, et al (1997).** Hypervolemic-hemodilution during cerebral ischemia in rats: Effect of diaspirin cross-linked hemoglobin (DCLHb) on neurologic outcome and infarct volume. *J Neurol Anesthesiol*; 9: 44-50.
- 165. Przybelski RJ, Daily EK, Kisicki JC, et al (1996).** Phase I study of the safety and pharmacologic effects of diaspirin cross-linked hemoglobin solution. *Crit Care Med*; 24: 1993-2000.
- 166. Standl T, Burmeister MA, Horn EP, et al (1998).** Bovine haemoglobin-based oxygen carrier for patients undergoing haemodilution before liver resection. *Br J Anesth*; 80: 189-194.
- 167. Gould SA, Moore EE, Moore FA, et al (1997).** Clinical utility of human polymerized hemoglobin as a blood substitute after acute trauma and urgent surgery. *J Trauma*; 43: 325-332.
- 168. Phillips WT, Lemen L, Goins B, et al (1997).** Use of oxygen-15 to measure oxygen-carrying capacity of blood substitutes in vivo. *Am J Physiol*; 272: H2492-H2499.
- 169. Biopure Corporation (1997).** The Leader in Oxygen Therapeutics. Cambridge, MA: Biopure, 1997: 1-5.

- 170. Northfield Laboratories (1997).** Northfield Laboratories Cleared for Phase III Blood Substitute Trials First to Enter Phase III at Large Doses. Evanston, IL: Northfield Laboratories, 1997: 1-3.
- 171. Somatagen, Inc (1997).** Recombinant Hemoglobin: Technology Backgrounder. Boulder, CO: Somatogen, Inc, 1997: 1-4.
- 172. Simoni J, Simoni G, Hartell A, et al (1997).** An improved blood substitute: In vivo evaluation of its renal effects. ASAIO J; 43: M714-M725.
- 173. Katusic ZS, Lee HC, Clambey ET (1996).** Crosslinked hemoglobin inhibits endothelium-dependent relaxations in isolated canine arteries. Gen Pharmacol; 27: 239-244.
- 174. Jia L, Bonaventura J, Stamler JS, et al (1996).** S-nitrosohemoglobin: A dynamic activity of blood involved in vascular control. Nature; 380: 221-226.
- 175. Gulati A, Sharma AC, Singh G (1996).** Role of endothelin in the cardiovascular effects of diaspirin crosslinked and stroma reduced hemoglobin. Crit Care Med; 24: 137-147.
- 176. Cole DJ, McKay L, Jacobsen WK, et al (1997).** Effect of subarachnoid administration of alpha-alpha diaspirin crosslinked hemoglobin on cerebral blood flow in rats. Artif Cells Blood Substit Immobil Biotechnol; 25: 95-104.
- 177. Cole DJ, Nary JC, Reynolds LW, et al (1997).** Experimental subarachnoid hemorrhage in rats: Effect of intravenous alpha-alpha diaspirin crosslinked hemoglobin on hypoperfusion and neuronal death. Anesthesiology; 87: 1486-1493.

- 178. Chappell JE, Shackford SR, McBride WJ (1997).** Effect of hemodilution with diaspirin crosslinked hemoglobin on intracranial pressure, cerebral perfusion pressure, and fluid replacements after head injury and shock. *J Neurosurg*; 86: 131-138.
- 179. Shackford SR (1997).** Effect of small-volume resuscitation on intracranial pressure and related cerebral variables. *J Trauma*; 42: S48-S53. .
- 180. Balla G, Vercellotti GM, Muller-Eberhard U (1991).** Exposure of endothelial cells to free heme potentiates damage mediated by granulocytes and toxic oxygen species. *Lab Invest*; 64: 648-655.
- 181. Balla J, Nath KA, Balla G, et al (1995).** Endothelial cell heme oxygenase and ferritin induction in rat lung by hemoglobin in vivo. *Am J Physiol*; 268: L321-L327.
- 182. Olsen SB, Tang DB, Jackson MR, et al (1996).** Enhancement of platelet deposition by cross-linked hemoglobin in a rat carotid endarterectomy model. *Circulation*; 93: 327-332.
- 183. Roth RI (1994).** Hemoglobin enhances the production of tissue factor by endothelial cells in response to bacterial endotoxin. *Blood*; 83: 2860-2865.
- 184. Kim MS, Kim HW, Sweeney JD, et al (1997).** Decreased whole blood factor IX activity following hemodilution with hemoglobin A-zero in-vitro. *Artif Cells Blood Substit Immobil Biotechnol*; 25: 289-295.

- 185. Takaori M, Fukui A (1996).** Treatment of massive hemorrhage with liposome encapsulated human hemoglobin (NRC) and hydroxyethyl starch (HES) in beagles. *Artif Cells Blood Substit Immobil Biotechnol*; 24: 643-653.
- 186. Sharma AC, Gulati A (1994).** Effect of diaspirin cross-linked hemoglobin and norepinephrine on systemic hemodynamics and regional circulation in rats. *J Lab Clin Med*; 123: 299-308.
- 187. Reah G, Bodenham AR, Mallick A, et al (1997).** Initial evaluation of diaspirin cross-linked hemoglobin (DCLHb) as a vasopressor in critically ill patients. *Crit Care Med*; 25: 1480- 1488.
- 188. Cohn SM, Zieg PM, Rosenfield AT, et al (1997).** Resuscitation of pulmonary contusion: Effects of a red cell substitute. *Crit Care Med*; 25: 484-491.
- 189. Baxter Healthcare Corporation (1998).** Baxter Ends US Trauma Study of Hemassist (DCLHb), European Trauma and US Surgery Trials Continue on Track. Deerfield, IL: Baxter Healthcare Corporation, 1998: 1-4.
- 190. Siegel JH, Fabian M, Smith JA, et al (1997).** Use of recombinant hemoglobin solution in reversing lethal hemorrhagic hypovolemic oxygen debt shock. *J Trauma*; 42: 199-212.
- 191. Baxter Healthcare Corporation (1998).** Baxter to Acquire Somatogen: Acquisition of Somatogen Will Enhance Baxter's Long-term Position in Hemoglobin Therapeutics. Deerfield, IL: Baxter Healthcare Corporation, 1998: 1-5.

- 192. Krieter H, Hagen G, Waschke KF, et al (1997).** Isovolemic hemodilution with a bovine hemoglobin- based oxygen carrier: Effects on hemodynamics and oxygen transport in comparison with a nonoxygen-carrying volume substitute. *J Cardiothorac Vasc Anesth*; 11: 3-9.
- 193. Kasper SM, Walter M, Grune F, et al (1996).** Effects of a hemoglobin-based oxygen carrier (HBOC-201) on hemodynamics and oxygen transport in patients undergoing preoperative hemodilution for elective abdominal aortic surgery. *Anesth Analg*; 83: 921-927.
- 194. Tyler KL (1994).** Prions and prion diseases, in Mandell GL, Bennet JE, Dolin R (eds) *Principles and Practice of Infectious Diseases*, ed 4. New York: Churchill Livingstone, 1994.
- 195. Kaufman RJ (1995).** Clinical development of perfluorocarbon-based emulsions as red cell substitutes. In: Winslow RM, Vandgriff KD, Intaglietta M (eds). *Blood substitutes: Physiological basis of Efficacy*. Basel: Birkhauser 53-75.
- 196. Tremper KK, and Anderson ST (2005).** Perfluoro-chemical emulsion oxygen transport fluids: a clinical review. *Annu Rev Med*; 36: 309-313.
- 197. Faithfull NS. and Cain SM (1997).** Critical oxygen delivery levels during shock following normoxic and hyperoxic haemodilution with fluorocarbons or dextran. *Adv Exp Med-Biol*; 215: 79-87.

- 198. Faithfull NS (2004).** Mechanisms and efficacy of fluoro-chemical oxygen transport and delivery, *Artif Cells Blood Substft Immobil Biotechnol*; 22: 181-197.
- 199. Zuck TF, and Riess JG (2004).** Current status of injectable oxygen carriers. *Crit Rev Clin Lab Sci*; 31: 295-324.
- 200. Chang TM (2009).** Nanobiotechnology for hemoglobin-based blood substitutes. *Crit Care Clin*. 2009 Apr; 25(2): 373-82.
- 201. Flaim SF (2004).** Pharmaco-kinetics and side effects of perfluorocarbon-based blood substitutes, *Artif Cells Blood Snbstit Immobil Biotechnol*; 22 (4): 1043-0154.
- 202. Sehgal LR, Could SA, and Rosen AL (2004).** Polymerized pyridoxylated hemoglobin, a red cell substitute with normal oxygen capacity. *Surgery*; 95: 433.
- 203. Skibba JL, Sonsalla J, Petroff Jr RJ, and Denor P (2005).** Canine liver isolation-perfusion at normo- and hyper-thermic temperatures with perfluoro-chemical emulsion (Fluosol-43). *Eur Surg Res* 17: 301-309.
- 204. Keipert PE (1997).** Use of Oxygent, a perfluorochemical-based oxygen carrier, as an alternative to mtraoperative blood transfusion, Alliance Pharmaceutical Corp., San Diego, <http://www.allp.com/peter.html>.

- 205. Chang TMS and Lister CW (2005).** Assessment of blood substitutes
11. In vitro complement activation of human plasma and blood for
safety studies in research, development. Industrial production and
pre-clinical analysis. *Artif Cells Blood Subsfil Immohil Bioiechnol*;
22: 171-180.
- 206. Shoemaker WC, Appel PL, and Kram HB (2002).** Tissue oxygen
debt as determinant of lethal and non-lethal post-operative organ
failure, 16: 117-120.
- 207. Jones J A (2005).** Red blood substitutes. *British Journal of
Anesthesiology*; 74: 697.
- 208. Spence PK, Carson JA, and Poses R (2000).** Elective surgery
without transfusion, influence of pre-operative hemoglobin level and
blood loss on mortality. *American Journal of Surgery*; 159: 320.
- 209. Riess JG (2001).** Fluorocarbon-based oxygen carriers; new
orientations. *Organs*; 15: 408-413.
- 210. Mohan C, Gennaro M, and Marini C (2002).** Reduction of the
extent of ischemic skeletal muscle necrosis by perfusion with
oxygenated perfluorocarbon. *Am J Surg*; 164: 194-198.
- 211. Wahr JA, Trouwborst A, and Spence RK (1996).** A pilot study of
the effects of a Perflubron emulsion, AF 0104, on mixed venous
oxygen tension in anesthetized surgical patients. *Anesth Analg*; 82:
103-107.

- 212. Kaufman RJ (1995).** Clinical development of perfluorocarbon-based emulsions as red cell substitutes. In: Winslow RM, Vandgriff KD, Intaglietta M (eds). Blood substitutes: Physiological basis of Efficacy. Basel: Birkhauser 53-75.
- 213. Taguchi K, Maruyama T, Iwao Y, Sakai H, Kobayashi K, Horinouchi H, Tsuchida E, Kai T, Otagiri M (2009).** Pharmacokinetics of single and repeated injection of hemoglobin-vesicles in hemorrhagic shock rat model. J Control Release; 136(3): 232-9.
- 214. Main ML, and Grayburn PA (1999).** Clinical applications of trans-pulmonary contrast echocardiography. Am Heart J; 37: 144-153.
- 215. Spahn DR (2000).** Current status of artificial oxygen carriers. Advanced Drug Delivery Reviews; 40 (3): 143-151.
- 216. Stenhorn D, Leach C, Funrman B, and Holm B (1996).** Partial liquid ventilation enhances surfactant phospholipid production. Crit Care Med; 24: 1252-1256.
- 217. Stone AM, Stein T, La fortune J, and Wise L (1998).** Renal vascular effects of stroma and stroma-free hemoglobin. Surg Forum; 29: 41.
- 218. Stone JJ, Piccione W, and BerrUbeitia LD (1986).** Hemo-dynamic, metabolic and morphological effects of cardio-pulmonary bypass with fluorocarbon priming solution. Ann Thorac Surg; 41: 419-424.

- 219. Vardanyan AH, Hovakimyan AV, and Hamartsumyan AV (2000).** Results of surgical treatment of retinal detachments complicated with proliferative vitreo-retinopathies with the use of perfluoropropane (C3F8) gas. Medical Science Monitor; 6 (4): 704-707.
- 220. Vercellotti GM, Hammerschmidt DE, Craddock PR, and Jacob HS (2002).** Activation of plasma complement by perfluorocarbon artificial blood: probable mechanism of adverse pulmonary reactions in treated patients and rationale for corticosteroids prophylaxis. Blood; 59: 1299-1304.
- 221. Leppdnieimi A, Soltero R, Burris D, Pikoulist Ratigan J, Waasdorp C, and Hufnagel H (2006).** Early resuscitation with low-volume poly DCLK Hb is effective in the treatment of shock induced by penetrating vascular injury. J of Trauma; 40: 242-248.
- 222. Bunn HF (2001).** The use of emoglobm as a "blood substitute", Am J Hematol; 42: I 12-117.
- 223. Goodnough LT, Grishaber JE, Monk TG, and Catalona WJ (2004).** Acute pre-operative lieino-dilution in patients undergoing radical prostatectomy: a case study analysis of efficacy. Anesth Analg; 78: 932-937.
- 224. Keipert PE, Faithfull NS, and Bradley JD (2004).** Oxygen delivery augmentation by low-dose perfluoro-chemical emulsion during profound normo-volemic hemo-dilution. PP. 197-204. In: Oxygen transport to tissue, XV. Vaupel P (ed.), Plenum Press. New York.

- 225. Cole DJ, DmmmondJC, PatelPM, and Nary JC (2003).** Effect of oncotic pressure of Diaspirin cross-linked hemoglobin (DCL Hb) on brain injury after temporary local cerebral ischemia in rats. *Anesth Analg*; 83: 342-347.
- 226. Benesch R, Benesch RE, and Kwong S (1998).** Labeling of hemoglobin with pyridoxal phosphate. *J Biol Chem* 257: 1320.
- 227. Fiddian-Green RJ, Hagliind I, and Giitierre D (2003).** Goals for the resuscilation of shock. *Crit Care Med*; 21: 525.
- 228. Frankel HL, Nguyen HB, Sliea-Donohue T, Alton LA, Ratigan J, and Malcom DS (2006).** Diaspirin cross-linked hemoglobin is efficacious in gut resuscitation as measured by a GIT optode. *J of Trauma*; 40: 231-241.
- 229. Kernis DM (2004).** Role of the perfkiorocarbon Fluosol-DA in coronary angioplasty. *Am J Med Sci*; 307: 218-221.
- 230. Petros A, Lamb G, and Leone A (2004).** Effects of nitric oxide synthase inhibitor in humans with septic shock. *Cardiovasc Res*; 28: 34-39.
- 231. Rose C Teicher B, McIntosh N and Lustig R (1995).** A clinical trial of Fluosol DA in advanced head neck cancer. Presented at the Conference on Chemical Modifiers of Cancer Treatment, Abstract No 4-9, Clearwater FL, 20-24.
- 232. Feola A, Simoni J, and Angelillo R (2002).** Clinical trial of a hemoglobin-based blood substitute in patients with sickle cell anemia. *Surg Gynecol Obstet*; 174: 379-338.

233. **Baba A, Kirn YK, Zhang H, Liu M, and Slutsky AS (2005).** Perfluorocarbon blocks tumor necrosis factor-alpha-induced interleukin-8 release from alveolar epithelial cells in vitro. *Critical Care Medicine*; 28 (4): 1113-1118.
234. **Leach CL, Furhman BP, and Morin FC HI (1997).** Perfluorocarbon-associated gas exchange (partial liquid ventilation respiratory distress syndrome): A prospective, randomized, controlled. *Crill Care Mod*; 21: 1270-1278.
235. **Greenspan JS, Wolfson MR, Rubenstein SD, and Shaffer TH (2000).** Liquid ventilation of human pre-term neonates, *J Pediat*; 117: 106-111.
236. **Ikegami M, Jobe A, Jacob H, and Lam R (2004).** A protein from airway premature lambs that inhibits surfactant function, *J Appl Physiol*; 57: 1134-1142.
237. **Tliompson JT, Smiddy WE. Glaser BM, Sjaarda RN, and Flynn HW Jr (1996).** Intra-ocular tamponade duration and success of macular hole surgery. *Retina*; 16 (5): 373-382.
238. **Chang TM (2004).** Future prospects for artificial blood. *Trends Biotechnol*; 17 (2): 61-67.
239. **Milestone BN, Miller T Jr, Wolf son MR, Stern RG, and Shaffer TH (1997).** Virtual bronchoscopy with per-fluorinated hydrocarbon enhancement. *Academic Radiology*; 4 (8): 383-386.
240. **Bisset GS, Emery KH, Mew MP, Rollins NK, Don S, and Shorr JS (2006).** Perflubron as a gastro-mtestinal MR iinagmg contrast agent in the pediatric population. *Pediatric Radiology*; 26 (6): 409-415.

- 241. Feola A, Simoni J, and Angelillo R (2002).** Clinical trial of a hemoglobin-based blood substitute in patients with sickle cell anemia. *Surg Gynecol Obstet*; 174: 379-338.
- 242. Baba A, Kirn YK, Zhang H, Liu M, and Slutsky AS (2005).** Perfluorocarbon blocks tumor necrosis factor-alpha-induced interleukin-8 release from alveolar epithelial cells in vitro. *Critical Care Medicine*; 28 (4): 1113-1118.
- 243. Faroux-Carlay B, Clary L, Madras C, Jammahe D, Greiner J, and Santaella C (2000).** Synthesis of single and double-chain fluorocarbon and hydrocarbon galactosyl amphiphiles and their anti-HIV-1 activity, *Carbohydrate Research*; 327 (3): 223-60.