

References

- Acworth, I. N., and B. Bailey (1997):** Reactive Oxygen Species. In: The handbook of oxidative metabolism. Massachusetts: ESA Inc., p. 1-1 to 4-4.
- Ambalavanan N, Carlo WA, Shankaran S (2006):** Predicting outcomes of neonates diagnosed with hypoxic ischemic encephalopathy. *Pediatrics*; 118:2084-2093.
- Andreoli, S.P. (1995):** Mechanism of oxidant mediated cell injury. *Pediatric Nephrol.* 9: C27.
- American Academy of Pediatrics and American College of Obstetricians and Gynecologists (1996):** Relationship between perinatal factors and neurologic outcome. In: Guidelines for perinatal care Poland RL and Freeman RK (eds.), 3rd edition, ELK Grove Village, Illinois, American Academy of Pediatrics, pp: 221-224.
- Ames, BN; Shigenager MK; Hagen, TM: (1993):** Oxidants, antioxidants and the degenerative disease of aging. *Proc. Natl Acad Sci USA*, Vol 90: 7915-7922.
- Apgar, V. (1953):** A proposal for a new method of evaluation of a newborn, infant. *Current Researches in Anesthesia*, 32: 260-267.
- Ashok Kumar, Roopali Mittal, Hari Dev Khanna, and Sriparna Basu (2008):** Free Radical Injury and Blood-Brain Barrier Permeability in Hypoxic-Ischemic Encephalopathy. *Pediatrics*; 122: e722 - e727.

- Aurora, S. and Snyder, E.Y. (2004):** Perinatal asphyxia, Cloherty, J.P.; Eichenwald, E.C. and Stark, A.R. Lippincott: Manual of Neonatal Care, 15th ed., Williams and Wilkins., 27: 536-555.
- Aust, S.D, Chignell, C.F; Bray, T.M; (1993):** Free radicals in toxicology. Toxicol Appl Pharmacol; 120:168-78.
- Back SA, Luo NL, Mallinson RA, Wallen LD (2005):** Selective Vulnerability of preterm white matter to oxidative damage defined by F2-Isoprostanes. Ann. Neurol.; 58:108-120.
- Ballard JL, Khoury JC, Weidig K, Wang L, Walsman BL and Lipp R (1991):** New Ballard Score, expanded to include extremely premature infants. J. Pediatr.; 119-417.
- Basu S (2004):** Isoprostanes: Novel bioactive products of lipid peroxidation. Free Radical Research.; 38(2): 105-122.
- Basu, S.; Whiteman, M.; Matthey, D.L. and Malliwell, B. (2001):** Raised levels of F2-Isoprostanes and prostaglandin F₂α in different rheumatic disease. Ann Rheum Dis; 60: 627-63.
- Benjamin Y. Huang and Mauricio Castillo (2008):** Hypoxic-Ischemic Brain Injury: Imaging Findings from Birth to Adulthood. Radio Graphics; 28: 417 - 439.
- Berger R. and Garnier Y (2000):** Perinatal brain injury. J Perinatal Med. 28 (4): 261-85.
- Bettridge, DJ (2000):** What is oxidative stress?. Metabolism; (49) (2 Suppl):3-8.
- Calamandrei G, Venerosi AP, Valanzano A, Berardini MA, Greco A, Puopolo M, Minghetti L (2004):** Increased brain levels of F2-Isoprostanes are an early marker of behavioral sequelae in a rat model of global perinatal asphyxia. Pediatric Research.; 55(1): 85-92.

- Castro-Gago M.; Rodriguez-Nunez A.; Novo-Rodriguez M.I. and Eiris-Punal J. (2001):** Biochemical parameters predictive of neuronal damage in childhood. *Rev Neurol.* 32(12): 1141-50.
- Chesseman, K.H. and Stater, T.F. (1993):** An introduction to free radical biochemistry in: *Free radical biochemistry in: Free radicals in Medicine*, edited by Chesseman KH and Stater TF, London, Churchill Livingstone PP 481-483.
- Cleide E.P. Trindade and Ligia M.S.S. Rugolo (2007):** Free radicals and neonatal diseases. *Neo Reviews*; 8: e522 - e532.
- Collins, M.P.; Lorenz, J.M. and Jetton, J.R. (2001):** Hypocapnia and other ventilation related risk factors for cerebral palsy in LBW infants. *Ped. Res.* 56: 712-719.
- Comporti M, Signorini C, Leoncini S, Buonocore G, Rossi V, Ciccoli L (2004):** Plasma F2-Isoprostanes are, elevated in newborns and inversely correlated to gestational age. *Free Radical Biology & Medicine.*; 37(5): 724-732.
- Coolen SAJ, Buuren BV, Duchateau G, Upritchard J, Verhagen H (2005):** Kinetics of brain damage in asphyxiated neonates. *The Egyptian Journal of Neonatology.* 6 (1):33-44.
- Daniel WW (1995):** A foundation for analysis in the health sciences. 6th ed. John Wiley and Sons, Inc. New York.
- Davi G, Falco A, Patrono C (2005):** Lipid peroxidation in diabetes mellitus. *Antioxid Redox Signal.*; 7(1-2): 256-68.
- Dean P. Jones (2008):** Radical-free biology of oxidative stress. *Am J Physiol Cell Physiol*; 295: C849 - C868.

- Debajit Sircar and Papasani V. Subbaiah (2007):** Isoprostane measurement in plasma and urine by liquid Chromatography–Mass Spectrometry with one-step sample preparation clin. Chem.; 53: 251 - 258.
- DiMascio P., Kasier S., and Sies H. (1999):** What is an antioxidant? Arch Biochem Biophys 274:532-538.
- Drage JS, Kennedi C and Schwartz BK (1964):** The Apgar score as an index of neonatal mortality, a report from the collaborative study of cerebral palsy. Obstetrics and Gynecology; 24:222-230.
- Dumont JE, Corvilain B and Maenhaut C. (2002):** Phylogeny, ontogeny, anatomy and metabolic regulation of the thyroid, De Groot LJ; The thyroid and its disease and thyroid disease manager, chapter 3:30-39.
- El Raggal NM, Youssef MF, Menecie TI (2005):** Urinary 8-Isoprostanes and S100B protein concentrations as predictors of hypoxic-ischemic. The Egyptian Journal of Neonatology; Volume 6, No. 1, Jan.
- Ergenekon E., Gucuyener K., Erbas D., Suheyl Ezgu F. and Atalay Y. (1999):** Cerebrospinal fluid and serum nitric oxide levels in asphyxiated newborns. Boil Neonate. 76(4): 200-206.
- Freeman BA and Carpo SD (2000):** Biology of disease. Free radical and tissue injury. J Lab Invest; 47: 12-15.
- Futrakul S, Praisuwan P, Thaitumyanon P (2006):** Risk factors for hypoxic-Ischemic encephalopathy in asphyxiated newborn infants. J Med Assoc Thai.; 89(3): 322-8.

- Ginger L. Milne, Huiyong Yin, and Jason D. Morrow (2008):** Human biochemistry of the Isoprostane pathway J. Biol. Chem., Jun; 283: 15533 - 15537.
- Gluckman PD, Wyatt JS, Azzopardi S (2005):** Selective head cooling and mild systemic hypothermia after neonatal encephalopathy: Multicenter randomized trial. Lancet; 365:663-670.
- Gomella T.L. (1999):** Perinatal asphyxia. Textbook of Neonatology. 73: 480-481.
- Gomella TL, Cunningham MD, Eyal FG, Zenk KE (2004):** Perinatal Asphyxia in Neonatology: Management, Procedures, On-cell problems, Disease, and Drugs (5th edition) A Simon & Schuster Company.; p.512.
- Greco A, Minghetti L (2004):** Isoprostanes as biomarkers and mediators of oxidative injury in infant and adult central nervous system diseases. Current Neurovascular Research.; 1:341-354.
- Grow J, Barks JDE. (2002):** Pathogenesis of hypoxic-ischemic cerebral injury in the term infant: current concepts. Clinics in Perinatology; 29(4):585-+.
- Gutteridge J.M.C. and Halliwell B. (2000):** Radicals and antioxidants in the year 2000, a historical look to the future. Ann NY Acad Sci., 899: 136-147.
- Halliday H.L. (2003):** Pulmonary disorders and apnea; McIntosh N., Helms P, and Smyth R., forfar: Arneili's Text book of pediatrics 6th ed., (10): 250-270.
- Halliwell B and Mathew W. (2004):** Measuring reactive species and oxidative damage. B.J. of pharmacol, 142: 231-255.

- Halliwell B. (2006):** Reactive species and antioxidants. Redox biology is a fundamental theme of aerobic life *Plant physiology*, 141: 312-322.
- Hankins G.D. and Speer M. (2003):** Defining the pathogenesis and pathophysiology of neonatal encephalopathy and cerebral palsy. *Obstet. Gynecol.* 102: 628-36.
- Harbord, M.G. and Weston, P.F. (1995):** Somatosensory evoked potentials predict neurologic outcome in full-term neonates with asphyxia. *J. Pediatr. Child. Health.* 31: 148-151.
- Haresh Kirpalani, John Barks, Kristian Thorlund, and Gordon Guyatt (2008):** Hypothermia: An evolving treatment for neonatal hypoxic ischemic encephalopathy: In *Reply Pediatrics*, Mar; 121: 649 - 650.
- Hegarty JE and Craig JS (2007):** Improving the Apgar score: Is it still viable?. In *Med J.*; 100(4): 421-2.
- Hegyi, T.; Carbone, T.; Anwar, M.; Ostfeld, B.; Hiatt, M. and Paneth, N. (1998):** The Apgar score and its components in the preterm infant. *Pediatrics* 101: 77-B.
- Hoehn T, Hansmann G, Bühner C, Simbruner G, Gunn AJ, Yager J, Levene M, Hamrick SE, Shankaran S, Thoresen M. (2008):** Therapeutic hypothermia in neonates. Review of current clinical data, recommendations and suggestions for implementation in neonatal intensive care units. *Resuscitation.*; 78(1):7-12. Review.
- Inder TE, Mocatta T, Darlow BA, Spencer C, Volpe JJ, Winterbourn CC (2002):** Elevated free radical products in the cerebrospinal fluid of VLBW infants with cerebral white matter injury.; *J Pediatric*; 52(2): 213-218.

- Ioannis Nikas, Vasiliki Dermentzoglou, Maria Theofanopoulou, and Vasilios Theodoropoulos (2008):** Parasagittal Lesions and Ulegyria in Hypoxic-Ischemic Encephalopathy Neuro-imaging Findings and Review of the Pathogenesis. *J Child Neurol*; 23: 51 - 58.
- Jeffrey M. and Perlman M.B. (1999):** Markers of Asphyxia and Neonatal Brain Injury. *N Eng J Med*. 341: 363-365.
- Jessup W., Rankin S.M., Dewhalley C.V., Hoult J.R.S., Scott J., and Leake D.S. (2003):** What is an antioxidant? *Biochem J* 265:399-405.
- Kondo H, Takahashim, Nikif (1997):** Peroxynitrite induced haemolysis of human erythrocytes and its inhibition by antioxidant. *FEBS Lett*; 413:236-8.
- Korthals, M.G. and Colon, J. (2005):** Hypoxic-ischemic encephalopathy in infants: new challenges. *Fetal and Pediatric Pathology*, 24: 105-120.
- Leth, H. (1996):** Use of brain lactate levels to predict outcome after perinatal asphyxia. *Acta. Pediatr*; 85: 859-864.
- Leuthner SR, Das UG (2004):** Low Apgar score and the definition of birth asphyxia. *Pediatric Clin North Am.*; 51(3): 737-45.
- Liauw L., J. van der Grond, A.A. van den Berg-Huysmans, L.A.E.M. Laan, M.A. van Buchem, and G. van Wezel-Meijler (2008):** Is there a way to predict outcome in (near) term neonates with hypoxic-ischemic encephalopathy based on MR Imaging?, *AJNR Am. J. Neuroradiol.*; 29: 1789 - 1794.

- Louhelainen N, Rytilä P, Obase Y, Makela M, Haahtela T, Kinnula VL, and Pelkonen A (2008):** The value of sputum F2-Isoprostane in detecting oxidative stress in mild asthma. *J Asthma*; 45(2):149-54.
- McAlmon K.P. (2004):** Necrotizing enterocolitis, Cloherty J.P., Eichenwald E.C and Stark A.R.: *Manual of Neonatal Care*, 5th ed., Lipincott Williams Wilkins:643-650.
- Manuel Haschke, Yan Ling Zhang, Christine Kahle, Jelena Klawitter, Magdalena Korecka, Leslie M. Shaw, and Uwe Christians (2007):** Quantification of 15-F2-Isoprostane in human urine and plasma. *Clin. Chem.*; 53: 489 - 497.
- Marcio Sotero de Menezes (2002):** Hypoxic-ischemic brain Injury in newborn. *E Medicine Journal*. <http://www.eMedicine.com/pediatric/neurology>. 7(15): 1-30.
- Mario Barreto, Maria Pia Villa, Carla Olita, Susy Martella, Giovanni Ciabattini, and Paolo Montuschi (2009):** 8-Isoprostane in exhaled breath condensate and exercise-induced bronchoconstriction in asthmatic children and adolescents. *Chest*; Jan 135: 66 - 73.
- Max Perlman and Prakesh Shah (2008):** Pathophysiology and treatment of neonatal hypoxic-ischemic encephalopathy: response to a previous commentary. *Pediatrics*; 121: 616 - 618.
- Maud Andriollo-Sanchez, Isabelle Hininger-Favier, Nathalie Meunier, Eugenia Venneria, Jacqueline M. O'Connor, Giuseppe Maiani, Angela Polito, Séverine Bord, Monique Ferry, Charles Coudray, and Anne-Marie Roussel (2008):** Antioxidant defenses in middle-aged and elderly subjects and non antioxidant beneficial effect of zinc supplementation

on oxidative stress markers: The Zenith Study. J. Am. Coll. Nutr.; 27: 463 - 469.

Milne GL, Sanchez SC, Museik ES, Morrow JD (2007): Quantification of F2-Isoprostanes as a biomarker of oxidative stress. Nature Protocols.; 2 (1): 221-226.

Mollier, J.C.; Thielsen, B. and Schaible, T.F. (1998): Value of Myocardial hypoxia markers (creatine kinase and its MB-Fraction, troponin T, QT-intervals) and serum creatinine for the Retrospective diagnosis of perinatal asphyxia. Boil Neonate, 73 (6): 36-374.

Montuschi P, Barnes PJ, Roberts LJ (2004): Isoprostanes: markers and mediators of oxidative stress. FASEB J.; 18: 1791-1800.

Montuschi P, Barnes P, Roberts LJ (2007): Insights into oxidative stress: The Isoprostanes. Curr Med Chem.; 14(6): 703-17.

Morley J.; 21:177-186.GM (2003): Neonatal encephalopathy, hypoxic ischemic encephalopathy, and subsequent cerebral palsy: Etiology, pathology, and prevention. E Medicine Journal. May Vol.3No.5.

Morrow JD (2005): Quantification of Isoprostanes as indices of oxidant stress and the risk of Atherosclerosis in humans. Arterioscler Thromb Vasc Biol.; 25:279-286.

Morrow JD (2006): The Isoprostanes-unique products of arachidonate peroxidation: Their role as mediators of oxidant stress. Current Pharmaceutical Design.; 12:895-902.

Musiek ES, Yin H, Milne GL, Morrow JD (2005): Recent advances in the biochemistry and clinical relevance of the Isoprostanes pathway. Lipids.; 40(10) 987-994.

- Nourooz-Zadeh J (2008):** Key issues in F2-Isoprostane analysis. Biochem Soc Trans; 36(Pt 5): 1060-5.
- Palmer C. (1995):** Hypoxic ischemic encephalopathy. Therapeutic approaches against microvascular injury, and role of neutrophils, PAF, and free radicals. Clin Perinatol, 22: 481-517.
- Pammi V.M. and Pragnya M.P. (2000):** Renal insult in asphyxia neonatorum. Ind Pediatr. 37: 1102-1106.
- Perlman JM (2006):** Intervention strategies for neonatal hypoxic-ischemic cerebral injury. Clinical Therapeutics.; 9(9): 1353-1365.
- Pierrat V, Duquennoy C, Van Haestert, (2002):** Ultrasound diagnosis neurodevelopment outcome of localized and extensive cystic periventricular leukomalacia. Arch Dis child; 84: F151-F156.
- Prakesh S. Shah, Arne Ohlsson, and Max Perlman (2007):** Hypothermia to treat neonatal hypoxic ischemic encephalopathy: Systematic Review. Arch Pediatric Adolesc Med; 161: 951 - 958.
- Qin Y, Wang CC, Kugn H, Rathmann J, Pang CP, Rogers MS (2000):** Determinants of umbilical cord arterial 8-Iso-prostaglandin f2 α concentrations. British Journal of Obstetrics and Gynecology.; 107:973-981.
- Raju TNK (2006):** Hypoxic-Ischemic encephalopathy. E-Medicine. June 30
- Ranjit MS. (2000):** Cardiac abnormalities in birth asphyxia. Ind J Pediatric. 67(3 suppl): S 26-9.

- Ringer, S.A. (1998):** Resuscitation in the delivery room. In: Manual of neonatal care, Cloherty J.P. and Stark A.R. (eds.), 4th edition, Lippincott Raven, Philadelphia; pp. 53-64.
- Rivkin, M.J. and Volpe, J.J. (1996):** Asphyxia and brain injury. In: Intensive care of the fetus and neonate. Spitzer AR (eds). Mosby Year book, Inc., USA 59: 685-695.
- Rodrigo J, Fernandez AP, Serrano J, Peinado NA, Martinez, A (2005):** The role of free radicals in cerebral hypoxia and ischemia. Free Radical Biology & Medicine.; 39:26-50.
- Rogers S, Wang CC, Lau TK Xiao X, Zhou XG, Fok TF, Chu KO, Pang PC (2005):** Relationship between Isoprostanes concentrations, metabolic acidosis, and morbid neonatal outcome. Clinical Chemistry.; 51(7): 1271-1274.
- Rosemary D. Higgins, MD, (2005):** Hypoxic ischemic encephalopathy and hypothermia. A critical look, by the American College of Obstetricians and Gynecologists. Published by Lippincott Williams & Wilkins. Vol. 106, no.6.
- Ruth, V.J.; Autti-Ramo, I.; Granstorm, M.L.; Korkman, M. and Raivio, K.O. (1988):** Prediction of perinatal brain damage by cord plasma vasopressin, erythropoietin and hypoxanthine values. J Pediatric, 113: 880-885.
- Sanad, R., El-Shazly, A. and Felifel, M. (1997):** Evaluation of cardiac ischemia in the newborn with perinatal asphyxia. Egypt J Ped. 14: 307-365.
- Sangkae, C. and Jeffrey, M. (2000):** Perinatal hypoxic ischemic encephalopathy. Recent advances in pediatrics. 18: 33-46.

- Sangkae, C. and Perlman, J. (2000):** Management of perinatal hypoxic-ischemic encephalopathy. In: Recent Advances in Pediatrics. David TJ. (eds.) 18th edition, Churchill Livingstone, London, New York, Tokyo, 33-44.
- Sarnat H.B and Sarnat MS (1976):** Neonatal encephalopathy following fetal distress. A clinical and electroencephalo graphic study. Arch Neurol; 33:696-705.
- Sekela D. Mwakyusa, Karim P. Manji, and Augustine W. Massawe (2008):** The hypoxic ischaemic encephalopathy score in predicting neurodevelopmental outcomes among infants with birth asphyxia at the Muhimbili National Hospital, Dar-es-Salaam, Tanzania. J Trop Pediatr; 10.1093/tropej/fmn061.
- Shalak L and Perlman M (2004):** Hypoxic ischemic brain injury in the term infant. Current concepts. Early Human Development.; 80: 125-141.
- Shankaran S (2002):** The postnatal management of the asphyxiated term infant. Clin perinatal.; 29: 675-692.
- Shans P, Riphagen S, Beyene J, Perlman M. (2004):** Multiorgan dysfunction in infants with post-asphyxial hypoxic ischemic encephalopathy. Archives of disease in childhood; 89 (2): 352-358.
- Simon N.P. (1999):** Long-term neurodevelopmental outcome of asphyxiated newborns. Clin Perinatal. 26(3): 767-78.
- Snyder E.Y. and Cloherty J. P. (2004):** Perinatal asphyxia. In: Manual of Neonatal Care Cloherty J and Stark AR (eds.): 5th ed., Lippincott-Raven, Boston, P: 536-554.

- Stoll, B.J. and Kliegman, R.M. (2004):** The fetus and the neonatal infant. Noninfectious disorders. hypoxia-ischemia. In nelson textbook of pediatrics, Bchrman R.E., Kliegman R.M. and Jenson H.B. (eds.) 17th ed., W.B. Saunders Co., London; pp. 523-531.
- Sudhin Thayyil, Rumana Omar, and Nikki Robertson (2008):** Amplitude-Integrated Electroencephalography (EEG) for outcome prediction in hypoxic-ischemic encephalopathy: Errors in Meta-analysis. J Child Neurol; 23: 970 - 971.
- Thompson DG (1994):** Consequences of perinatal asphyxia. AACN Clin. Issues; 5(3): 242-245.
- Thoresen, M. and Whitelaw, A. (2005):** Therapeutic hypothermia for hypoxic-ischemic encephalopathy in the newborn infant. Current opinion in Neurology, 18: 111-116.
- Turgut M., Basaran O., Celimen M., Fraratas S. and Aygun AD, (2004):** Oxidant and antioxidant levels in preterm newborns with idiopathic hyperbilirubinemia: J. Pediatric child health, (40): 639-637.
- Ursini F., and Bendoli A. (2004):** Mechanism of antioxidant action. Chem. Phys Lipids 44: 255-276.
- Valko M, Leibfritz D, Moncol J, Cronin MT, Mazur M, and Telser J (2007):** Free radicals and antioxidants in normal physiological functions and human disease. Int J Biochem Cell Biol; 39(1): 44-84.
- Vann Chau, Kenneth John Poskitt, Michael Andrew Sargent, Brian Alexander Lupton, Alan Hill, Elke Roland, and Steven Paul Miller (2009):** Comparison of Computer Tomography and Magnetic Resonance Imaging Scans on the third day of

life in term newborns with neonatal encephalopathy. Pediatrics; 123: 319 - 326.

Vannucci RC and Perlman JM (1997): Interventions for perinatal hypoxic ischemic encephalopathy. Pediatrics.100:1004-1014.

Velez P, Lopez SB, Puerto MJ, Estos MD (2006): A descriptive study of perinatal asphyxia and its sequelae. Rev. Neurol.; 43(1):3-6.

Volpe J.J. (2001): Hypoxic-ischemic encephalopathy. In: Volpe JJ, ed. Neurology of the Newborn. 4th ed. Philadelphia: WB Saunders; 314-369.

Warner DS, Sheng H, Batinic-Haberle I. (2004): Oxidants, antioxidants and the ischemic brain. J Exp Biol; 207(Pt 18):3221-31.

Weinberger B, Nisar S, Anwar M, Ostfeld B, Hegyi T (2006): lipid peroxidation in cord blood and neonatal outcome. Pediatrics international; 48:479-483.

Wiswedel I, Hirsch D, Carluccio F, Hampl H, Werner S (2005): F2-Isoprostanes as biomarkers of lipid peroxidation in patients with chronic renal failure. Bio-Factors.; 24: 201-208.

Zisovska E M, N P Pehcevska, I B Martinovska, and L B Lazarevska (2008): Etiology of the neonatal encephalopathy. Arch. Dis. Child.; 93: pw225.