

Referências Bibliográficas

- Adibhatla RM and Hatcherb JF (2008). Altered lipid metabolism in brain injury and disorders. *Subcell Biochem* 48: 1-24
- Andrews H, Nichols P, Bates D, Turnbull D (2005). Mitochondrial dysfunction plays a key role in progressive axonal loss in multiple sclerosis. *J Medhy*; 64: 669-677.
- Beltrán B, Mathur A, Duchen, MR, Erusalimsky JD, Moncada S (2000). Inhibition of mitochondrial respiration by endogenous nitric oxide: a critical step in Fas signaling. *PNAS* 97, 26: 14602-14607.
- Beretta, S , Mattavelli, L et al (2004). Leber hereditary optic neuropathy mtDNA mutations disrupt glutamate transport in cybrid cell lines. *Brain* 127: 2183-2192.
- Bradford MM (1976). A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein-dye binding. *Anal Biochem*, 72:248-254.
- Brown G and Borutaite V (2002). Nitric oxide inhibition of mitochondrial respiration and its role in cell death. *Free Radic Biol Med* 33, 11: 1440-1450.
- Brown GC (1999). Nitric Oxide and mitochondrial respiration. *Biochim Biophys Acta* 1411: 351-369.
- Calabrese V, Scapagnini G, Ravagna A, Bella R, et al (2002). Nitric oxide synthase is present in the cerebrospinal fluid of patients with active multiple sclerosis and is associated with increases in cerebrospinal fluid protein nitrotyrosine and S-nitrosothiols and with changes in glutathione levels. *J Neurosci Res* 70: 580-587.
- Cross A, Manning P, Stern M, Misko T(1997) Evidence for the production of peroxynitrite in inflammatory CNS demyelination. *J Neuroimmunol* 80: 121-130

- Duncan AJ, Heales SJR (2005). Nitric oxide and neurological disorders. *Molecular Aspects of Medicine* 26: 67-96.
- Dutta R, McDonough J, Yin X, Peterson J, et al. (2006). Mitochondrial Dysfunction as a cause of axonal degeneration in Multiple sclerosis patients. *Ann Neurol* 59:478-489.
- Emerit J, Edeas M, Bricaire F (2004). Neurodegenerative disease and oxidative stress. *J Biopha* 58: 39-46.
- Garcia C e Coelho MH. *Neurologia Clínica – Princípios Fundamentais*, Lidel Ed, 2009.
- Ghafourifar P, Mousavizadeh K, Parihar M, Nazarewicz RR, Parihar A, Zenebe WJ, (2008). Mitochondria in multiple sclerosis. *Front Bio* 13: 3116-3126.
- Gilgun-Sherki Y, Melamed E, Offen D (2004). The role of oxidative stress in the pathogenesis of multiple sclerosis: the need for effective antioxidant therapy. *J Neurol* 251: 261-268.
- Gilgun-Sherki Y, Melamed E, Offen D (2004). The role of oxidative stress in the pathogenesis of multiple sclerosis: the need for effective antioxidant therapy. *J Neurol*; 251: 261-268
- Grazina M (2004). Genoma mitocondrial e déficit energético no diagnóstico das doenças da cadeia respiratória mitocondrial. Tese de Doutorado, UC.
- Grazina M e Oliveira C (2001). Aspectos Bioquímicos do Envelhecimento. *Envelhecer vivendo*. Ed. Quarteto, Lousã. Cap 7 pp 91-109
- Grazina M, Diogo LM, Garcia PC, Silva ED, Garcia TD, Robalo CB, Oliveira CR. (2007). Atypical presentation of Leber's hereditary optic neuropathy associated

- to mtDNA 11778G>A point mutation-A case report. *Eur J Paediatr Neurol.*; 11(2):115-8.
- Grazina M, Pratas J, Silva F, Oliveira S, Santana I, Oliveira C (2006). Genetic basis of Alzheimer's dementia: role of mtDNA mutations. *Genes Brain Behav.*;5 Suppl 2:92-107
- Heales SRJ, Bolaños JP, Stewart VC, Brookes PS, Land JM, Clark JB (1999). Nitric oxide, mitochondria and neurological disease. *Biochim Biophys Acta* 1410: 215-228.
- Hemmer B, Nessler S, Zhou D, Kieseier B, Hartung H-P (2006). Immunopathogenesis and immunotherapy of multiple sclerosis. *Nature* 2 (4):201-211.
- Houshmand M, Sanati M H, Babrzahed F *et al.* (2005). Population screening for association of mitochondrial haplogroups BM, J, K, and M with multiple sclerosis: interrelation between haplogroup J and MS in Persian patients. *Multiple sclerosis* 11: 728-730.
- Jacobson J, Duchen M, Hothersall J, Clark J, Heales S (2005). Induction of mitochondrial oxidative stress in astrocytes by nitric oxide precedes disruption of energy metabolism. *J Neurochem* 95: 388-395.
- Kahle W, Leonhardt H, Platzer W. *Nervous System and sensory Organs, Color Atlas/Text of Human Anatomy, Vol.3 4th Ed.* Thieme Medical Publishers, Inc. New York.
- Kalman B, Laitinen K, Komoly S (2007). The involvement of mitochondria in the pathogenesis of multiple sclerosis. *J Neuroimmunol* 188: 1-12.
- Kalman B, Lublin F (1999). The genetics of multiple sclerosis. A review. *Biomed Pharmacother*; 53: 358-70.

- Kidd P (2005). Neurodegeneration from mitochondrial insufficiency: nutrients, stem cells, growth factors, and prospects for brain rebuilding using integrative management. *Alt Med Rev* 10, 4: 268-293.
- Kumleh H, Riazi G, Houshmand M, Sanati M, Gharagozli K, Shafa M (2006). Complex I deficiency in Persian multiple sclerosis patients. *J Neurol Sci* 243: 65-69.
- Leonard J and Schapira A (2000). Mitochondrial respiratory chain disorders I: mitochondrial DNA defects. *Lancet* 355: 299-304.
- Lu F, Selak M, O'Connor J, Sidney Croul, Lorenzana, Butunoi C, Kalman B (2000). Oxidative damage to mitochondrial DNA and activity of mitochondrial enzymes in chronic active lesions of multiple sclerosis. *J Neurol Sci* 177: 95-103.
- Lutskii MA and Esaulenko IE (2007). Oxidant Stress in the pathogenesis of multiple sclerosis. *Neurosci Behav Physiol.* 37 (3): 26-30.
- Mahad D, Ziabreva I, Lassmann H, Turnbull D (2008). Mitochondrial defects in acute multiple sclerosis. *Brain* 1-14.
- Mao, P and Reddy, PH(2009). Is multiple sclerosis a mitochondrial disease? *Biochem. Biophys. Acta* doi.10.1016/j. (article in press)
- Mckee T, Mckee JR (1999). *Biochemistry an Introduction*, 2nd ed, McGraw Hill.
- McQualter J and Bernard C (2007). Multiple sclerosis: a battle between destruction and repair. *J Neurochem* 100: 295-306.
- Mihailova S M, Ivanova MI, Quin L M, Naumova E J (2007). Mitochondrial DNA variants in Bulgarian patients affected by mutiple sclerosis. *European Journal of Neurology* 14: 44-47.

- Navarro A and Boveris A (2007). The mitochondrial energy transduction system and the aging process. *Am J Physiol Cell Physiol* 292: 670-686.
- Oksenberg JR, Baranzini S, Sawcer S, Hauser S (2008). The genetics of multiple sclerosis: SNPs to pathways to pathogenesis. *Nature Rev Genet.* 2-12.
- Oliveira L (2007) Haplogrupos mitocondriais em doentes com suspeita de patologia Mitocondrial. Tese de Mestrado, FCTUC.
- Orth M and Schapira A (2001). Mitochondria and degenerative disorders. *Am J Med Genet* 106: 27-36.
- Otaegui D, Sáenz A, Martínez-Zabaleta M, *et al*, (2004) Mitochondrial haplogroups in Basque multiple sclerosis patients. *Multiple Sclerosis* 10: 532-535.
- Poderoso JJ, Carreras MC, Lisdero C, Riobó N (1996). *Arch. Biochem Biophys* 328: 85 - 92
- Rejda K, Petzold A, Stelmasiak Z, Giovannoni G (2008). Cerebrospinal fluid brain specific proteins in relation to nitric oxide metabolites during relapse of multiple sclerosis. *Multiple Sclerosis* 14: 59-66.
- Rubbo H and Radi R (2008). Protein and lipid nitration: role in redox signaling and injury. *BBA*; doi 10.1016/j.bbagen *article in press*.
- Rustin P, Chretien D, Bourgeron T, Gérard B, Rotig A, Saudubray JM, Munnich A (1994). Biochemical and molecular investigations in respiratory chain deficiencies. *Clin Chim Acta* 228 (1): 35-51.
- Saha R, and Pahan K (2006). Regulation of inducible nitric oxide synthase gene in glial cells. *Antioxid Redox Signal* 8 (5-6): 929-947.

- Sayer L, Perry G, Smith M (2008). Oxidative Stress and neurotoxicity. *Chem Res Toxicol* 21: 172-188.
- Shiva S, Brookes P, Patel R, Anderson P, Darley-Usmar V (2001). Nitric oxide partitioning into mitochondria membranes and the control of respiration at cytochrome c oxidase. *PNAS* 98 (1): 7212-7217
- Smith KJ (2006). Axonal protection in multiple sclerosis – a particular need during remyelination? *Brain* 129: 3147-3149.
- Smith KJ, Kapoor R, Hall S, Davies M (2001). Electrically active axons degenerate when exposed to nitric oxide. *Ann Neurol* 49:470-6.
- Taylor R and D Turnbull (2005). Mitochondrial DNA mutations in human disease. *Nat Rev Genet*; 6 (5): 389-402.
- Turrens JF, Alexandre A, Lehninger AL.(1985). Ubisemiquinone is the electron donor for superoxide formation by complex III of heart mitochondria. *Arch Biochem Biophys* 237(2):408-14
- Xinhua Y, Koczan D, Sulonen A-M, Akkad D A, et al. (2008). mtDNA nt13708A Variant Increases of multiple the risk of Multiple Sclerosis. *PLoS ONE* 3, 2 e1530.
- Ziemssen T (2005). Modulation processes within the central nervous system is central to therapeutic control of multiple sclerosis. *J Neurol* 252 (5): V38-V45.