

REFERENCES

- Adham N, Kao HT, Schechter LE, Bard J, et al. Cloning of another human serotonin receptor (5-HT_{5F}) a fifth 5-HT₁ receptor subtype coupled to the inhibitional adenylate cyclase. **Neurobiol** 1993; 90: 408-12.
- Alam Z, Coombes N, Waring H, et al. Plasma levels of neuroexcitatory amino acids in patients with migraine or tension headache. **J Neurol Sci** 1998; 156: 102-6.
- Allan W. Inheritance of migraine. **Arch Intern Med** 1928; 42: 590-99.
- Andersen AR, Friberg L, Olsen TS, Olesen J. Delayed hyperemia following hypoperfusion in classic migraine. Single photon emission computed tomographic demonstration. **Arch Neurol** 1988; 45: 154-9.
- Anthony M, Hinterberger H, Lance JW. The possible relationship of serotonin to the migraine syndrome. In: Friedman AP, editor. **Research and Clinical Studies in Headache**. New York: S. Karger, 1969: 29-59.
- Arrab MAR, Delgado T, Wiklund L, Svendgaard NA. Brainstem terminations of the trigeminal and upper spinal innervation of the cerebrovascular system: WGA-HRP transganglionic study. **J Cereb Blood Metab** 1988; 8: 54-63.
- Arregui A, Carera J, Leon-Velarde F, et al. High prevalence of migraine in high-altitude population. **Neurology** 1991; 41: 1668-9.
- Avoli M, Drapeau C, Louvel J, et al. Epileptiform activity induced by low extracellular magnesium in the human cortex maintained in vitro. **Ann Neurol** 1991; 30: 589-96.

- Bari F, Paprika D, Jancso G, Domoki F. Capsaicin-sensitive mechanisms are involved in cortical spreading depression-associated cerebral blood flow changes in rats. **Neurosci Lett** 2000; 292: 17-20.
- Barkley GL, Moran JE, takanashi Y, Tepley N. Techniques for DC magnetoencephalography [review]. **J Clin Neurophysiol** 1991; 8: 189-99.
- Barkley GL, Tepley N, Nagel-Leiby S, et al. Magnetoencephalographic studies of migraine. **Headache** 1990; 30: 428-34.
- Baxter G, Kennett G, Blaney F, Blackburn T. 5-HT₂ receptor subtypes: a family re-united? **TiPS** 1995; 16: 105-10.
- Blau JN. Migraine: theories of pathogenesis. **Lancet** 1992; 339: 1202-7.
- Boadle-Biber MC. Regulation of serotonin synthesis. **Prog Biophys Molec Biol** 1993; 60: 1-15.
- Bradley PB, Engel G, Feniuk W, et al. Proposals for the classification and nomenclature of functional receptors for 5-hydroxytryptamine. **Neuropharmacology** 1986; 25: 563-76.
- Branchek TA, Zgombick JM, Kucharewicz SA, et al. Molecular perspectives on serotonin receptor subtypes in experimental models. In: Clifford Rose F edi. **Towards migraine 2000**. London, Elsevier Science 1996: 247-57.
- Brandli P, Loffler BM, Bruw V, et al. Role of endothelin in mediating neurogenic plasma extravasation in rat dura mater. **Pain** 1996; 64: 315-22.

- Brewerton Td, Murphy DL, Lassen MD, et al. Headache responses following m-chlorophenylpiperazine in bulimics and controls. **Headache** 1992; 32: 217-22.
- Brewerton TD, Murphy DL, Mueller EA, Jimerson DC. Introduction of migraine like headaches by serotonin agonist m-chlorophenylpiperazine. **Clin Pharmacol Ther** 1988; 43: 605-9.
- Bures J, Buresova O, Krivanek J. The mechanism and applications of Leao's spreading depression of electroencephalographic activity. Prague: Academia, 1974.
- Busse R, Mulsch A. Induction of nitric oxide synthase by cytokines in vascular smooth muscle cells. **FEBS Lett** 1990; 275: 87-90.
- Colonna DM, Meng W, Deal D, et al. Neuronal NO promotes cerebral cortical hyperemia during cortical spreading depression in rabbit. **Am J Physiol** 1997; 272: H1315-22.
- Curtis DR, Watkins JC. Analogues of glutamic acid and γ -amino-n-butyric acids having potent actions on mammalian neurones. **Nature** 1961; 191: 1010-11.
- Cutrer FM, Garret C, Moussaoui SM, Moskowitz MA. The non-peptide neurokinin-1 antagonist, RPR 100893, decrease c-fos expression in trigeminal nucleus caudalis following noxious chemical meningeal stimulation. **Neuroscience** 1995b; 64: 741-50.
- Cutrer FM, Limmroth V, Ayata G, Moskowitz MA. Valproate reduces c-fos expression in the trigeminal nucleus caudalis (TNC) after noxious meningeal stimulation. **Cephalalgia** 1995a; 15 (Suppl 14): 96.

- Dahl A, Russell D, Nyberg-Hansen R, Rootwelt K. Cluster headache: transcranial doppler ultrasound and rCBF studies. **Cephalalgia** 1990; 10: 87-94.
- Dahl A, Russell D, Nyberg-Hansen R, Rootwelt K. Effect of nitroglycerin on cerebral circulation measured by transcranial doppler and SPECT. **Stroke** 1989; 20: 1733-6.
- Dahlof CGH, Hargreaves RJ. Pathophysiology and pharmacology of migraine. Is there a place for antiemetics future treatment strategies? **Cephalalgia** 1998; 18: 593-604.
- Daigaard P, Kronborg D, Lauritzen M. Migraine with aura, cerebral ischemia, spreading depression, and Compton scatter [letter, comment]. **Headache** 1991; 31: 49-53.
- Dalessio DJ. On migraine headache: serotonin and serotonin antagonist. **JAMA** 1962; 181: 381-91.
- Douen AG, Akiyama K, Matthew J, et al. Preconditioning with cortical spreading depression decreases intras ischemic cerebral glutamate levels and dose-regulates excitatory amino acid transporters EAAT1 and EAAT2 from rat cerebral cortex plasma membranes. **J Neurochem** 2000; 75: 812-7.
- Duckrow RB. A brief hypoperfusion precedes spreading depression if nitric oxide synthesis is inhibited. **Brain Res** 1993; 618 (2): 190-5.
- Duckrow RB. Regional cerebral blood flow during spreading cortical depression in conscious rats. **J Cereb Blood Flow Metab** 1991; 11: 150-4.

- Durlach H. Neurological manifestations of magnesium imbalance. **Hand book of Clin Neurol** 1976; 28: 545-79.
- Ebersberger A, Schaible HG, Averbeck B, et al. Is there a correlation between spreading depression, neurogenic inflammation and nociception that might cause migraine headache. **Ann Neurol** 2001; 49: 7-13.
- Eckly AE, Lugnier C. Role of phosphodiesterases III and IV in the modulation of vascular cyclic AMP content by the NO /cyclic GMP pathway. **Br J Pharmacol** 1994; 113: 445-50.
- Eide PK, Hole K. Different role of 5-HT_{1A} and 5-HT₂ receptors in spinal cord in the control of nociceptive responsiveness. **Neuropharmacology** 1991; 30: 727-31.
- Erspamer V. Pharmacology of indolealkylamines. **Pharmacol Rev** 1956; 6: 425-87.
- Fabricius M, Jensen LH, Lauritzen M. Microdialysis of interstitial amino acids during spreading depression and anoxic depolarization in rat neocortex. **Brain Res** 1993; 612: 61-9.
- Fanciullacci M, Alessandri M, Figini M, et al. Increase in plasma calcitonin gene related peptide-induced cluster headache attack. **Pain** 1995; 60: 119-23.
- Fanciullacci M, Alessandri M, Sicuteri R, Marabini S. Responsiveness of the trigeminovascular system to nitroglycerine in cluster headache patients. **Brain** 1997; 120: 283-8.
- Faraci FM, Breese KR. Nitric oxide mediates vasodilation in response to activation of N-methyl-D-aspartate receptors in brain. **Circ Res** 1993; 72: 476-80.

- Feelisch M, Noack EA. Correlation between nitric oxide formation during degradation of organic nitrates and activation of guanylate cyclase. **Eur J Pharmacol** 1987; 139: 19-30.
- Feindel W, Penfield W, McNaughton F. The tentorial nerves and localization of intracranial pain in man. **Neurology** 1960; 10: 555-63.
- Ferrari MD, Odink J, Bos KD, et al. Neuroexcitatory plasma amino acids are elevated in migraine. **Neurology** 1990; 40: 2582-6.
- Fozard JR, Gray JA. 5-HT_{1C} receptor activation: a key step in the initiation of migraine? **Trends Pharmacol Sci** 1989; 10: 307-9.
- Fozard JR, Kalkman HO. 5-Hydroxytryptamine (5-HT) and the initiation of migraine: new perspectives. **Naunyn Schmiedeberg's Arch Pharmacol** 1994; 350: 225-9.
- Fozard JR. 5-HT in migraine evidence from 5-HT receptor antagonists for a neuronal etiology. In. Sandler M, Collins GM edi. **Migraine: a spectrum of ideas**. New York, Oxford Univ Press 1990: 128-46.
- Friberg L, Olesen J, Iversen HK, Sperling B. Migraine pain associated with middle cerebral artery dilatation: reversal by sumatriptan. **Lancet** 1991; 338: 13-7.
- Furchgott RF, Zawadzki JV. The obligatory role of endothelial cells in the relaxation of arterial smooth muscle by acetylcholine. **Nature** 1980; 288: 373-6.
- Gaddum JH, Picarelli ZP. Two kinds of tryptamine receptor. **Br J Pharmacol** 1957; 12: 323-8.

- Gallai V, Floridi A, Mazzotta G, et al. L-arginine/nitric oxide pathway activation in platelets of migraine patient with and without aura. **Acta Neurol Scand** 1996; 94: 151-60.
- Gallai V, Sarchielli P, Floridi A, et al. Vasoactive peptide levels in the plasma of young migraine patients with and without aura assessed both interictally and ictally. **Cephalalgia** 1995; 15: 384-90.
- Ganchrow D. Intratrigeminal and thalamic projections of nucleus caudalis in the squirrel monkey (*Zsaimiri sciureus*): degeneration and autoradiographic study. **J comp Neurol** 1978; 178: 281-312.
- Gardner-Medwin AR, Tepley N, Barkley GL, et al. Magnetic fields associated with spreading depression in anesthetised rabbits. **Brain Res** 1991; 540: 153-8.
- Gardner-Medwin AR. Magnetometry and magnetic resonance imaging: complementary approaches to the spreading depression issue in migraine. In: Clifferd Rose F edi. **Towards migrain 2000**. London, Elsevier Science 1996: 163-7.
- Gardner-Medwin AR. Possible roles of vertebrate neuroglia in potassium dynamics, spreading depression and migraine. **J Exp biol** 1981; 95: 111-27.
- Garthwaite J, Charles SL, Chess-Williams R. Endothelium-derived relaxing factor release on activation of NMDA receptors suggests role as intercellular messenger in the brain. **Nature** 1988; 336: 385-8.
- Garthwaite J. Glutamate, nitric oxide and cell-cell signalling in the nervous system. **Trends Neurosci** 1991; 14: 60-7.

- Geraud G, Bessou M, Fabre N, et al. Heterogeneous cerebral blood flow during spontaneous attacks of migraine with and without aura: a 99 mTc-HMPAO SPECT study. **Cephalalgia** 1989 (Suppl 10): 31-2.
- Gill R, Andine P, Hillered L, et al. The effect of MK-801 on cortical spreading depression in the penumbral zone following focal ischaemia in the rat. **J Cereb Blood Flow Metab** 1992; 12: 371-9.
- Gloor P. Regional cerebral blood flow in migraine. **Trends Neurosci** 1986; 6: 21.
- Glusa E, Richter M. Endothelium-dependent relaxation of porcine pulmonary arteries via 5HT_{1C}-like receptors. **Naunyn Schmiedebergs Arch Pharmacol** 1993; 347: 471-7.
- Goadsby PJ, Kaube H, Hoskin KL. Nitric oxide synthesis couples cerebral blood flow and metabolism. **Brain Res** 1992; 595: 167-70.
- Goadsby PJ. Current concepts of the pathophysiology of migraine. In: editor. **Neurologic Clinics: Advances in Headache**. Philadelphia, pa: WB Saunders Co, 1997; 15: 27-42.
- Gold L, Back T, Arnold G, et al. Cortical spreading depression-associated hyperemia in rats: involvement of serotonin. **Brain Res** 1998; 783(2): 188-93.
- Gorelova NA, Koroleva VI, Amemori T, et al. Ketamine blockade of cortical spreading depression in rats. **Electroencephalogr Clin Neurophysiol** 1987; 66: 440-7.
- Govitrapong P, Limthavorn C, Srikiatkachorn A. 5-HT₂ serotonin receptor on blood platelet of migraine patients. **Headache** 1992; 32: 480-4.

- Grafstein B. Neuronal release of potassium during spreading depression. In: Brazier MAB, editor. *Brain function*, Vol. 1, **Cortical excitability and steady potentials**. Berkeley: University of California Press, 1963; 87-234.
- Gray DW, Marshall I. Human alpha-calcitonin gene-related peptide stimulates adenylate cyclase and guanylate cyclase and relaxes rat thoracic aorta by releasing nitric oxide. **Br J Pharmacol** 1992b; 107: 691-6.
- Hamblin MW, Metcalf MA. Cloning of a human 5-HT_{1D} serotonin receptor gene and its rat homolog (abstract). **Soc Neurosci**. 1991; 17: 719.
- Hansen AJ, Lauritzen M, Tfelt-Hansen P. Spreading cortical depression and antimigraine drugs. In: Amery WK, Van Nueten JM, Wauquier A, editors. **The pharmacological basis of migraine therapy**. London: Pitman, 1984; 161-70.
- Hansen AJ, Quisstorff B, Gjedde A. Relationship between local changes in cortical blood flow and extracellular K⁺ during spreading depression. **Acta Physiol Scand** 1980; 109: 1-6.
- Hansen AJ. Effect of anoxia on ion distribution in the brain [review]. **Physiol Rev** 1985; 65: 101-48.
- Headache Classification committee of the International Headache Society. Classification and diagnostic criteria for headache disorders, cranial neuralgias and facial pain. **Cephalgia** 1988; 8 (Suppl 7): 1-96.
- Hernandez-Caceres J, Macias-Gonzales R, Brozek G, Bures J. Systemic ketamine blocks cortical spreading depression, but does not delay the onset of terminal anoxic depolarization in rats. **Brain Res** 1987; 437: 360-4.

- Herold S, Gibbs JM, Jones AKP, et al. Oxygen metabolism in migraine. **J Cereb Blood Flow Metab** 1985; 5: S445-6.
- Herrera DG, Maysinger D, Gadiant R, et al. Spreading depression induces c-fos-like immunoreactivity and NGF mRNA in the rat cerebral cortex. **Brain Res** 1993; 602: 99-103.
- Heuring RE and Peroutka SJ. Characterization of a novel ³H-5-hydroxytryptamine binding site subtype in bovine brain membranes. **J Neurosci** 1987; 7: 896-903.
- Hopf HC, Johnson EA, Gutmann L. Protective effect of serotonin on migraine attacks. **Neurology** 1992; 42: 1419.
- Hoyer D, Clarke DE, Fozard JR, et al. International Union of Pharmacology Classification of receptors for 5-hydroxytryptamine (serotonin). **Pharmacol Rev** 1994; 46: 157-203.
- Hoyer D, Palacios JM, Mengod G. 5-HT_{1-like} Receptor distribution in the human brain: autoradiographic studies. In: Marsden CA and Heal DJ edi. **Central serotonin receptors and psychotropic drugs**. London, Oxford: Blackwell 1992: 100-25.
- Huang LYM. Origin of thalamically projection somatosensory relay neurons in the immature rat. **Brain Res** 1989; 495: 108-14.
- Huerta MF, Frankfurter A, Harting JK. Studies of the principalis sensory and spinal trigeminal nuclei of the rat: projections to the superior colliculus, inferior olive, and cerebellum. **J Comp Neurol** 1983; 220: 147-6
- Humphrey PP, Hartig P, Hoyer D. A Proposed nomenclature of 5-HT receptors. **Trends Pharmacol Sci** 1993; 14: 233-8.

- Ignarro LJ, Lipton H, Edwards JC, et al. Mechanism of vascular smooth muscle relaxation by organic nitrate, nitrite, nitroprusside and nitric oxide: evidence for the involvement of S-nitrosothiols as active intermediates. **J Pharmacol Exp Ther** 1981; 218: 739-49.
- Ijima T, Mies G, Hossmann KA. Repeated negative DC deflections in rat cortex following middle cerebral artery occlusion are abolished by MK-801; effect on volume of ischaemic injury. **J Cereb blood Flow Metab** 1992; 12: 727-33.
- Ingvar dsen BK, Laursen H, Olsen UB, Hansen AJ. Possible mechanism of c-fos expression in trigeminal nucleus caudalis following cortical spreading depression. **Pain** 1997; 72: 407-15.
- Iversen HK and Olesen J. Headache induced by a nitric oxide donor (nitroglycerin) responds to sumatriptan. A human model for development of migraine drugs. **Cephalalgia** 1996; 16: 412-8.
- Iversen HK, Hielsen TH, Garre K, et al. Dose-dependent headache response and dilatation of limb and extracranial arteries after three doses of 5-isosorbide-mononitrate. **Eur Clin Pharmacol** 1992b; 42: 31-5.
- Iversen HK, Holm S, Friberg L. Intracranial Hemodynamics during intravenous nitroglycerin infusion. **Cephalalgia** 1989b; 9 (Suppl 10): 84-5.
- Iversen HK, Nielsen TH, Olesen J, Tfelt-Hansen P. Arterial responses during migraine headache. **Lancet** 1990; 336: 837-9.
- Iversen HK, Olesen J, Tfelt-Hansen P. Intravenous nitroglycerin as an experimental model of vascular headache: Basic characteristics. **Pain** 1989a; 38: 17-24.

- Iversen HK, Olesen J. Nitroglycerin-induced headache is not dependent on histamine release. Support for a direct nociceptive action of nitric oxide. **Cephalalgia** 1994; 14: 437-42.
- Kaas JH. Somatosensory system. In: Paxinos G, editor. **The human nervous system**. San Diego, Academic Press 1990: 813-44.
- Kallela M, Farkila M, Saijonmaa O, Fyhrquist F. Endothelin in migraine patients. **Cephalalgia** 1998; 18: 329-32.
- Kamadan NM, Halvorson H, Vande-Linde A, et al. Low brain magnesium in migraine. **Headache** 1989; 29: 590-3.
- Kaube H, Keay K, Hoskin KL, Brandler R. Expression of c-fos-like immunoreactivity in the trigeminal nucleus caudalis and high cervical cord following stimulation of the sagittal sinus in the cat. **Brain Res** 1993; 629: 95.
- Kemplay S, Webster KE. A quantitative study of the projections of the gracile. Cuneate and trigeminal nuclei and the medullary reticular formation to the thalamus in the rat. **Neuroscience** 1989; 32: 153-67.
- Kerr FWL. The divisional organization of afferent fibers of the trigeminal nerve. **Brain** 1963; 86: 721-32.
- Kiechle FL, Malinski T. Nitric oxide: Biochemistry, pathophysiology and detection. **Am J Clin Pathol** 1993; 100: 567-75.
- Kimball RW, Friedman AP, Vallejo E. Effect of serotonin in migraine patients. **Neurology** 1960; 10: 107-11.
- Knowles RG, Moncada S. Nitric oxide synthases in mammals. **Biochem J** 1994; 298: 249-58.

- Koponen S, Keinanen R, Roivanen T. Spreading depression induces expression of calcium-independent protein kinase C subspecies in ischaemia-sensitive cortical layers. **Neuroscience** 1999; 93 (3) : 985-93.
- Kraig RP, Dong LM, Thisted R, Jaeger CB. Spreading depression increases immunohistochemical staining of glial fibrillary acidic protein. **J Neurosci** 1991; 11: 2187-98.
- Krivanek J. Some metabolic changes accompanying Leao's spreading cortical depression in the rats. **J Neurochem** 1961; 6: 183-9.
- Lambert GA, Michalick J, Storer RJ, Zagami AS. Effect of cortical spreading depression on activity of trigeminovascular sensory neurons. **Cephalalgia** 1999; 19: 631-8.
- Lambert GA, Michalick J. Cortical spreading depression reduces dural blood flow: a possible mechanism for migraine pain. **Cephalalgia** 1994; 14: 430-6.
- Lance JW. 5-hydroxytryptamine and its role in migraine. **Eur Neurology** 1991; 31: 279-81.
- Lance JW. Headache. **Ann Neurol** 1981; 10: 1-10.
- Lance JW. History of involvement to 5-HT in primary headaches. In. Olesen J, Saxena PR edi. **5-hydroxytryptamine mechanisms in primary headaches**. New York, Raven Press 1992: 19-28.
- Lashley KS. Patterns of cerebral integration indicated by the scotomas of migraine. **Arch Neurol Psychiatry** 1941; 46: 331-9.

- Lassen LH, Ashina M, Christiansen I, et al. Nitric oxide synthase inhibition: a new principle in the treatment of migraine attacks. **Cephalalgia** 1998; 18: 27-32.
- Lauritzen M, Hansen AJ, Kronborg D, Wieloch T. Cortical spreading depression is associated with arachidonic acid accumulation and preservation of energy charge. **J Cereb blood Flow Metab** 1990; 10: 115-22.
- Lauritzen M, Hansen AJ. The effect of glutamate receptor blockade on anoxic depolarization and cortical spreading depression. **J Cereb Blood Flow Metab** 1992; 12: 223-9.
- Lauritzen M, Jorgensen MB, Diemer NH, et al. Persistent oligemia of rat cerebral cortex in the wake of spreading depression. **Ann Neurol** 1982; 12: 469-74.
- Lauritzen M, Olesen J. Regional cerebral blood flow during migraine attacks by xenon-133 inhalation and emission tomography. **Brain** 1984; 107: 447-61.
- Lauritzen M, Rice ME, Okada YC, Nicholson C. Quisqualate, kainate, and NMDA can initiate spreading depression in the turtle cerebellum **Brain Res** 1988; 475: 317-27.
- Lauritzen M. Cerebral blood flow in migraine and cortical spreading depression [review]. **Acta Neurol Scand** 1987a; 76 (Suppl 13): 1-40.
- Lauritzen M. Cortical spreading depression as a putative migraine mechanism. **Trends Neurosci** 1987b; 10: 8-13.
- Lauritzen M. Pathophysiology of the migraine aura: the spreading depression theory. **Brain** 1994; 117: 199-210.

- Leao AAP, Morison RS. Propagation of spreading cortical depression. **J Neurophysiol** 1945; 8: 33-45.
- Leao AAP. Pial circulation and spreading depression of activity in the cerebral cortex. **J Neurophysiol** 1944b; 7: 391-6.
- Leao AAP. Spreading depression of activity in the cerebral cortex **J Neurophysiol** 1944a; 7: 359-90.
- Leibowitz DH. The glial spike theory on an active role of neuroglia in spreading depression and migraine. **Proc R Soc Lond Biol** 1992; 250: 287-95.
- Leonard BE. Subtypes of serotonin receptors: biochemical changes and pharmacological consequences. **Int Clin Psychopharmacol** 1992; 7: 23-31.
- Limmroth V, Lee WS, Moskowitz MA. GABA_A receptor-mediated effects of progesterone, its ring A-reduced metabolites and synthetic neuroactive steroids on neurogenic oedema in the rat meninges. **Br J Pharmacol** 1996; 117: 99-104.
- Liu-Chen L-Y, Liszczack T, King J. An immunoelectron microscopic study of substance P-containing axons in cerebral arteries. **Brain Res** 1986; 369: 12-20.
- Liu-Chen L-Y, Mayberg M, Moskowitz MA. Immunohistochemical evidence for a substance P-containing trigeminovascular pathway to pial arteries in cats. **Brain Res** 1983; 268: 162-6.
- Living EGD. Onmegrim, Sick-Headache and some allied disorders. A contribution to the pathology of nerve-stroms. **J&A** 1873.

- Longmore J, Shaw D, Smith D. Differential distribution of 5-HT_{1D} and 5-HT_{1B}-immunoreactivity within the human trigemino-cerebrovascular system: implication for the discover of new antimigraine drugs. **Cephalalgia** 1997; 17: 833-42.
- Lord GDA. Clinical characteristics of the migrainous aura. In: Amery WK, Wauquier A, edi. **The prelude to the migraine attack**. London, Bailliere Tindall, 1986: 87-98.
- Markowitz S, Saito K, Moskowitz MA. Neurogenically mediated leakage of plasma protein occurs from blood vessels in dura mater but not brain. **J Neurosci** 1987; 7: 4129-36.
- Maroteaux L, Saudou F, Amlaiky N, et al. The mouse 5-HT_{1B} serotonin receptor: cloning, functional expression and localization in motor control centers. **Proc Natl Acad Sci USA** 1992; 89: 3020-4.
- Marranes R, Wauquier A, Reid K, De Prins E. Effects of drugs on cortical spreading depression. In: Amery WK, Wauquier A, editors. **The prelude to the migraine attack**. London: Bailliere Tindall, 1986; 158-73.
- Martin GR, Humphrey PPA. Classification review receptors for 5-hydroxytryptan\mine: current perspectives on classification and nomenclature. **Neuropharmacology** 1994; 33: 261-73.
- Martin GR. Pre-clinical pharmacology of zolumtriptan (Zoming; formerly 311C90), a centrally and peripherally acting 5-HT_{1B/1D} agonist for migraine. **Cephalalgia** 1997; 17 (Suppl 18): 4-14.

- Martinez F, Castillo J, Rodriguez JR, et al. Neuroexcitatory amino acid levels in plasma and cerebrospinal fluid during migraine attacks. **Cephalalgia** 1993; 13: 9-93.
- Mathew NA. Serotonin 1D (5-HT_{1D}) agonists and other agents in acute migraine. In editor. **Neurologic Clinics: Advances in Headache**. Philadelphia, pa: WB Saunders Co, 1997; 15: 61-83.
- Matsuyama T, Shiosaka, Wanaka A, et al. Fine structure of peptidergic and catecholaminergic nerve fibers in the anterior cerebral artery and their interrelationship: an immunoelectron microscopic study. **J Comp Neurol** 1985; 235: 268-76.
- Matthes H, Boschert U, Amlaiky N, et al. Mouse 5-hydroxytryptamine_{5A} and 5-hydroxytryptamine_{5B} receptors deice a new family of serotonin receptors: cloning, functional expression and chromosomal localization. **Molecular Pharmacol** 1992; 43: 373-79.
- May A, Gysman H, Wallnofer A, et al. Endothelin antagonist bosentan blocks neurogenic inflammation, but is not effective in aborting migraine attacks. **Pain** 1996; 67: 375-8.
- May A, Ophoff RA, terwindt GM, et al. Familial hemiplegic migraine locus on 19p13 is invoved in the common forms of migraine with and without aura. **Hum Genet** 1995; 96: 604-8.
- Mayberg MR, Zervas NT, Moskowitz MA. Trigeminal projections to supratentorial pial and dural blood vessels in cats demonstrated by horseradish peroxidase histochemistry. **J Comp Neurol** 1984; 223: 46-56.

- Mayer B. Regulation of nitric oxide synthase and soluble guanylyl cyclase. **Cell Biochem Funct** 1994; 12: 167-77.
- Mayevsky A, Doron A, Manor T, et al. Repetitive cortical spreading depression cycle development in the human brain: a multiparametric monitoring approach. **J Cereb Blood Flow Metab** 1995; 15 (Suppl 1): S34.
- Meller ST, Gebhart GF. Nitric oxide (NO) and nociceptive processing in the spinal cord. **Pain** 1993; 52: 127-36.
- Meng W, Colonna DM, Tobin JR, Busija DW. Nitric oxide and prostaglandins interact to mediate arterial dilation during cortical spreading depression. **Am J Physiol** 1995; 269: 176-81.
- Mies G. Inhibition of reelin synthesis during repetitive cortical spreading depression. **J Neurochem** 1993; 60: 360-3.
- Miller AW, Hoenig ME, Ujhelyi MR. Mechanisms of impaired endothelial function associated with insulin resistance. **J Cardiovasc Pharmacol Therap** 1998; 36: 385-92.
- Milner PM. Note on a possible correspondence between the scotomas of migraine and spreading depression of Leao. **Electoencephalogr Clin Neurophysiol** 1958; 10: 705.
- Mody I, Lambert JDC, Heinemann U. Low extracellular magnesium induces epileptiform activity and spreading depression in rat hippocampal slices. **J Neurophysiol** 1987; 57: 869-88.
- Moncada S, Palmer RMJ, Higgs EA. Nitric oxide: physiology, pathophysiology and pharmacology. **Pharmacol Rev** 1991; 43: 109-41.

- Moskowitz MA, Cutrer FM. Sumatriptan: a receptor-targeted treatment for migraine. **Ann Rev Med** 1993; 44: 145-54.
- Moskowitz MA, Nozaki K, Kraig RP. Neocortical spreading depression provokes the expression of c-fos protein-like immunoreactivity within trigeminal nucleus caudalis via trigeminovascular mechanism. **J Neurosci** 1993b; 13: 1167-77.
- Moskowitz MA. Interpreting vessel diameter changes in vascular headaches. **Cephalalgia** 1992; 12: 5-7.
- Moskowitz MA. Neurogenic inflammation in the pathophysiology and treatment of migraine. **Neurology** 1993a; 43 (Suppl 3): S16-20.
- Nedergaard M, Astrup J. Infarct rim: effect of hyperglycemia on direct current potential and (14C) 2-deoxyglucose phosphorylation. **J Cereb Blood Flow Metab** 1986; 6: 607-15.
- Nichols FT III, Mawad M, Mohr JP, et al. Focal headache during balloon inflation in the internal carotid and middle cerebral arteries. **Stroke** 1990; 21: 555-9.
- Nicholson C, Kraig RP. The behavior of extracellular ions during spreading depression. In: Zeuthen T, editor. **The application of ion-selective microelectrodes**. Amsterdam: Elsevier, 1981: 217-38.
- Nicholson C. Volume transmission and the propagation of spreading depression. In: Lehmenkuhler A, Grotemeyer K-H, Tegtmeier F, edi. **Migraine: basic mechanisms and treatment**. Munich: Urban and Schwarzenberg, 1993; 293-308.

- Northington FJ, Tobin JR, Koehler RC, et al. In vivo production of nitric oxide correlates with NMDA-induced cerebral hyperemia in newborn sheep. **Am J Physiol** 1995; 269 (Heart Circ Physiol 38): H215-21.
- Nozaki K, Moskowitz MA, Maynard KI, et al. Possible origins and distribution of immunoreactive nitric oxide synthase-containing nerve fibers in cerebral arteries. **J Cereb Blood Flow Metab** 1993; 13: 70-9.
- O'Connor TP, Van der Kooy D. Pattern of intracranial and extracranial projections of trigeminal ganglion cells. **J Neurosci** 1986; 6: 2200-7.
- Olesen J, Friberg L, Olsen TS, et al. Timing and topography of cerebral blood flow, aura, and headache during migraine attacks. **Ann Neurol** 1990; 28: 791-8.
- Olesen J, Larsen B, Lauritzen M. Focal hyperemia followed by spreading oligemia and impaired activation of rCBF in classic migraine. **Ann Neurol** 1981a; 9: 344-52.
- Olesen J, Tfelt-Hansen P, Henrikson L, Larsen B. The common migraine attack may not be initiated by cerebral ischemia. **Lancet** 1981b; 11: 438-40.
- Olesen J, Thomsen LL, Iversen H. Nitric oxide is a key molecule in migraine and other vascular headaches. **Trends Pharmacol Sci** 1994; 15: 149-53.
- Olesen J, Thomsen LL, Lassen LH, Jansen-Olesen I. The nitric oxide hypothesis of migraine and other vascular headaches. **Cephalalgia** 1995; 15: 94-100.
- Olesen TS, Friberg L, Lassen NA. Ischemia may be the primary cause of the neurologic deficits in classic migraine. **Arch Neurol** 1987; 44: 156-61.

- Palmer RMJ, Ferrige AG, Moncada S. Nitric oxide release accounts for the biological activity of endothelium-derived relaxing factor. **Nature** 1987; 327: 524-6.
- Parsons AA. Recent advances in mechanisms of spreading depression. **Curr Opin Neurol** 1998; 11: 227-31.
- Peatfield RC, Gawel MJ, Rose FC. The effect of infused prostacyclin in migraine and cluster headache. **Headache** 1981; 21: 191-5.
- Pelligrino DA, Koenig HM, Albrecht RF. Nitric oxide synthesis and regional cerebral blood flow responses to hypercapnia and hypoxia in the rat. **J Cereb Blood Flow Metab** 1993; 13: 80-7.
- Peroutka SJ, Snyder SH. Multiple serotonin receptors: differential binding of ³H-5-hydroxytryptamine, ³H-lysergic acid diethylamide and ³H-spiroperidol. **Mol Pharmacol** 1979; 16: 687-9.
- Peroutka SJ. 5-Hydroxytryptamine receptor subtypes and the pharmacology of migraine. **Neurology** 1993; 8: 829-38.
- Piper RD, Lambert GA, Duckworth JW. Cortical blood flow changes during spreading depression in cats. **Am J Physiol** 1991; 261: H96-102.
- Presley RW, Menetrey D, Levine JD, Basbaum AI. Systemic morphine suppresses noxious stimulus-evoked fos protein-like immunoreactivity in rat spinal cord. **J Neurosci** 1991; 10: 323-35.
- Radi R, Beckman JS, Bush KM, Freeman BA. Peroxynitrite-induced membrane lipid peroxidation: the cytotoxic potential of superoxide and nitric oxide. **Arch Biochem Biophys** 1991b; 288: 481-7.

- Rapoport AM, Sheftell FD. Pathophysiology of headache. In editor. **Headache Disorders: A Management Guide for Practitioners**. Philadelphia, Pa: WB Saunders Co, 1996: chap 4.
- Rapport MM Green AA, Page IH. Serum vasoconstrictor (serotonin). IV. Isolation and characterization. **J Biol chem** 1948; 17: 1243-51.
- Raskin NH. Pharmacology of migraine. **Annu Rev Pharmacol Toxicol** 1981; 21: 463-78.
- Raskin NH. Serotonin receptors and headache. **N Engl J Med** 1991; 325: 353-4.
- Read SJ, Parsons AA. Sumatriptan modifies cortical free radical release during cortical spreading depression: A novel antimigraine action for sumatriptan. **Brain Res** 2000; 870: 44-53.
- Read SJ, Smith MI, Benham CD, et al. Furosemide inhibits regenerative cortical spreading depression in anaesthetized cats. **Cephalgia** 1997; 17: 826-32.
- Read SJ, Smith MI, Hunter AJ, Parsons AA. Enhanced nitric oxide release during cortical spreading depression following infusion of glyceryl trinitrate in the anaesthetized cat. **Cephalgia** 1997; 17: 159-65.
- Read SJ, Smith MI, Hunter AJ, Upton N, Parsons AA. SB-220453 a potential novel antimigraine agent, inhibits nitric oxide release following induction of cortical spreading depression in the anaesthetized cat **Cephalgia** 2000; 20: 92-99.
- Rengasamy A, Johns RA. Characterization of endothelium-derived relaxing factor/nitric oxide synthase from bovine cerebellum and mechanism of modulation by high and low oxygen tensions. **J Pharmacol Exp Ther** 1991; 259: 310-6.

- Reuter U, Weber JR, Gold L, et al. Perivascular nerves contribute to cortical spreading depression-associated hyperemia in rats. **Am J Physiol** 1998; 274: H1979-87.
- Rogers NF, Ignarro LJ. Constitutive nitric oxide synthase from cerebellum is reversibly inhibited by nitric oxide formed from L-arginine. **Biochem Biophys Res Commun** 1992; 289: 242-9.
- Romansky K, Stamenov B. Ultrastructural study of cerebral cortex and subcortical white matter following ligation of bridging veins in cats. **Zentralbl Neurochir.** 1995; 56: 111-6.
- Sakas DE, Moskowitz MA, Wei EP, et al. Trigeminovascular fibers in the cortical gray mater by axon-dependent mechanism during acute, severe hypertension or seizures. **Proc Natl Acad SCI USA** 1987; 57:235-44.
- Saper JR, Silberstein S, Gorson CD, Hamel RL. Mechanisms and theories of head pain. In: editors. **Handbook of Headache Management.** Philadelphia, pa: Williams and Wilkins, 1993: chap 3.
- Saudou F, Hen R. 5-hydroxytryptamine receptor subtypes: molecular and functional diversity. **Adv Pharmacol** 1994; 30: 327-80.
- Shen Y, Monsma FJ, Metcalf MA, et al. Molecular cloning and expression of a 5-hydroxytryptamine₇, serotonin receptor subtype. **J biol chem** 1993; 268: 2820-4.
- Shimizu K, Miller AW, Erdos L, et al. Role of endothelium in hyperemia during cortical spreading depression (CSD) in the rat. **Brain Res** 2002; 928 (1-2): 40-9.

- Sicuteri F, Testi A, Anselmi B. Biochemical investigations in headache: increase in hydroxyindoleacetic acid excretion during migraine attack. **Int Arch Allergy Appl Immunol** 1961; 19: 55-8.
- Silberstein SD. Serotonin (5-HT) and Migraine. **Headache** 1994; 34: 408-17.
- Sjoerdsma A, Lovenberg W, Engelman K, et al. Serotonin now: clinical implications of inhibiting its synthesis with parachlorophenylalanine. **Ann Intern Med** 1970; 73: 607-29.
- Smith MI, Read SJ, Chan WN, et al. Repetitive cortical spreading depression in a gyrencephalic feline brain. **Cephalalgia** 2000; 20 (6): 546-53.
- Sramka M, Brozek G, Bures J, Nadvornik P. Functional ablation by spreading depression possible use in human stereotactic neurosurgery. **Appl Neurophysiol** 1978; 40: 48-61.
- Srikiatkachorn A, Phunthumchinda K. Headache in an out-patient department. **Chula Med J** 1992; 36: 701-13.
- Stepien A, Chalimoniuk. Level of nitric oxide-dependent cGMP in patients with migraine. **Cephalalgia** 1998; 18: 631-4.
- Sugaya C, Yakato M, Noda Y. Neuronal and glial activity during spreading depression in cerebral cortex of cat. **J neurophysiol** 1975; 38: 822-41.
- Swanson DR. Migraine and magnesium: eleven neglected connections [review]. **Perspect Biol Med** 1988; 31: 526-57.
- Tfelt-Hansen P. Prophylactic pharmacotherapy of migraine: some practical guidelines. In ed. **Neurologic Clinics: Advances in Headache**. Philadelphia, pa: WB Saunders Co, 1997; 15: 153-65.

- Thomsen LL, Iversen HK, Lassen LH, Olesen J. The role of nitric oxide in migraine pain. **CNS Drugs** 1994a; 2: 417-22.
- Thomsen LL, Iversen HK, Olesen J. Cerebral blood flow velocities are reduced during attacks of unilateral migraine without aura. **Cephalalgia** 1995; 15: 109-16.
- Thomsen LL, Kruuse C, Iversen HK, Olesen J. A nitric oxide donor (nitroglycerin) triggers genuine migraine attacks. **Eur J Neurol** 1994b; 7: 73-80.
- Thomsen LL. Investigations into the role of nitric oxide and the large intracranial arteries in migraine headache. **Cephalalgia** 1997; 17: 973-95.
- Toda N. Mechanism underlying responses to histamine of isolated monkey and human cerebral arteries. **Am J Physiol** 1990; 258: H311-7.
- Tomimoto II, Nishimura M, Suenaga T, Nakamura S, Akiguchi I, Wakita H, et al. Distribution of nitric oxide synthase in the human cerebral blood vessels and brain tissues. **J Cereb Blood flow Metab** 1994; 14: 930-8.
- Van Harreveld A, Fifkova E. Mechanisms involved in spreading depression. **J Neurobiol** 1984; 4: 375-87.
- Van Harreveld A, Kooiman M. Amino acid release from the cerebral cortex during spreading depression and asphyxiation. **J Neurochem** 1965; 12: 431-9.
- Van Harreveld A. Compounds in brain extracts causing spreading depression of cerebral cortical activity and contraction of crustacean muscle. **J Neurochem** 1959; 3: 300-15.

- Wahl M, Schilling L, Parsons AA, Kaumann A. Involvement of calcitonin-gene related peptide (CGRP) and nitric oxide (NO) in the pial artery dilatation elicited by cortical spreading depression. **Brain Res** 1994; 637: 204-10.
- Wallace MN, Bisland SK. NADPH-diaphorase activity in activated astrocytes represents inducible nitric oxide synthase. **Neuroscience** 1994; 59: 905-19.
- Wei EP, Moskowitz MA, Boccalini P, Kontos HA. Calcitonin gene-related peptide mediates nitroglycerin and sodium nitroprusside-induced vasodilation in feline cerebral arterioles. **Cir Res** 1992; 70: 1313-9.
- Weiller C, May A, Limmroth V, et al. Brainstem activation in spontaneous human migraine attacks. **Nat Med** 1995; 1: 658-60.
- Wennmalm A, Peterson A. Analysis of nitric oxide as a marker for endothelium-derived relaxing factor in biological fluids using electron paramagnetic resonance spectrometry. **J Cardiovasc Pharmacol** 1991; 17: S34-40.
- Wolff HG. **Wolff's Headache and other Head Pain**. 5th edi. New York, Oxford University Press 1987.
- Woolf CJ. Central sensitisation-implications for the pathogenesis of headache. In Clifford Rose editor. **Towards Migraine 2000. Developments in Neurology. Vol 12**. Amsterdam: Elsevier Science. 1996: 173-81.
- Zgombick JM, Schechter LE, Macchi M, et al. Human gene, S31 encodes the pharmacologically defined serotonin 5-HT_{1E} receptor. **Molecular Pharmacol** 1992; 42: 180-5.

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