

8 Literaturverzeichnis

- ADAMS, J.H., J.B. BRIERLEY, R.C. CONNOR und C.S. TREIP (1966):
The effects of systemic hypotension upon the human brain. Clinical and neuropathological observations in 11 cases.
Brain **89**: 235-268.
- AKOPOV, S.E., R. SERCOMBE und J. SEYLAZ (1994):
Endothelial dysfunction in cerebral vessels following carotid artery infusion of phorbol ester in rabbits: the role of polymorphonuclear leukocytes.
J Cereb Blood Flow Metab **14**: 1078-1087.
- ARGENTINO, C., D. TONI, M. RASURA, F. VIOLI, M.L. SACCHETTI, A. ALLEGRETTA, F. BALSANO und C. FIESCHI (1990):
Circadian variation in the frequency of ischemic stroke.
Stroke **21**: 387-389.
- ARRAS, M., A. HÖCHE, R. BOHLE, P. ECKERT, W. RIEDEL und J. SCHAPER (1996):
Tumor necrosis factor-alpha in macrophages of heart, liver, kidney and in the pituitary gland.
Cell Tissue Res. **285**: 39-49.
- ARRAS, M., W.D. ITO, D. SCHOLZ, B. WINKLER, J. SCHAPER und W. SCHAPER (1998a):
Monocyte activation in angiogenesis and collateral growth in the rabbit hindlimb.
J Clin Invest **101**: 40-50.
- ARRAS, M., R. STRASSER, M. MOHRI, R. DOLL, P. ECKERT, W. SCHAPER und J. SCHAPER (1998b):
Tumor necrosis factor-alpha is expressed by monocytes/macrophages following cardiac microembolization and is antagonized by cyclosporine.
Basic Res Cardiol **93**: 97-107.
- BACK, T., M. HOEHN-BERLAGE, K. KOHNO und K.A. HOSSMANN (1994):
Diffusion nuclear magnetic resonance imaging in experimental stroke. Correlation with cerebral metabolites.
Stroke **25**: 494-500.
- BENJAMIN, E.J., J.F. PLEHN, R.B. D'AGOSTINO, A.J. BELANGER, K. COMAI, D.L. FULLER, P.A. WOLF und D. LEVY (1992):
Mitral annular calcification and the risk of stroke in an elderly cohort.
N Engl J Med **327**: 374-379.
- BERGER, K., H.W. HENSE, A. ROTHDACH, B. WELTERMANN und U. KEIL (2000):
A single question about prior stroke versus a stroke questionnaire to assess stroke prevalence in populations.
Neuroepidemiology **19**: 245-257.
- BERKELBACH VAN DER SPRENKEL, J.W. und C.A. TULLEKEN (1988):
The postorbital approach to the middle cerebral artery in cats.
Stroke **19**: 503-506.

BISHOP, C.C., S. POWELL, M. INSALL, D. RUTT und N.L. BROWSE (1986):
Effect of internal carotid artery occlusion on middle cerebral artery blood flow at rest and in response to hypercapnia.
Lancet **1**: 710-712.

BLADIN, C.F. und B.R. CHAMBERS (1993):
Clinical features, pathogenesis, and computed tomographic characteristics of internal watershed infarction.
Stroke **24**: 1925-1932.

BLADIN, C.F. und B.R. CHAMBERS (1994):
Frequency and pathogenesis of hemodynamic stroke.
Stroke **25**: 2179-2182.

BODSCH, W., A. BARBIER, M. OEHMICHEN, B. GROSSE OPHOFF und K.A. HOSSMANN (1986):
Recovery of monkey brain after prolonged ischemia. II. Protein synthesis and morphological alterations.
J Cereb Blood Flow Metab **6**: 22-33.

BODSCH, W., K. TAKAHASHI, A. BARBIER, B. GROSSE OPHOFF und K.A. HOSSMANN (1985):
Cerebral protein synthesis and ischemia.
Prog Brain Res **63**: 197-210.

BOGOUSLAVSKY, J. und F. REGLI (1986a):
Borderzone infarctions distal to internal carotid artery occlusion: prognostic implications.
Ann Neurol **20**: 346-350.

BOGOUSLAVSKY, J. und F. REGLI (1986b):
Unilateral watershed cerebral infarcts.
Neurology **36**: 373-377.

BOTS, M.L., S.J. LOOMAN, P.J. KOUDSTAAL, A. HOFMAN, A.W. HOES und D.E. GROBBEE (1996):
Prevalence of stroke in the general population. The Rotterdam Study.
Stroke **27**: 1499-1501.

BRATTON, D.L., Q. HAMID, M. BOGUNIEWICZ, D.E. DOHERTY, J.M. KAILEY und D.Y. LEUNG (1995):
Granulocyte macrophage colony-stimulating factor contributes to enhanced monocyte survival in chronic atopic dermatitis.
J Clin Invest **95**: 211-218.

BURCHFIEL, C.M., J.D. CURB, B.L. RODRIGUEZ, R.D. ABBOTT, D. CHIU und K. YANO (1994):
Glucose intolerance and 22-year stroke incidence. The Honolulu Heart Program.
Stroke **25**: 951-957.

- BUSCH, H.J., I. BUSCHMANN, G. MIES, C. BODE und K.A. HOSSMANN (2003):
Arteriogenesis in hypoperfused rat brain.
J Cereb Blood Flow Metab **23**: 621-628.
- BUSCHMANN, I., H.J. BUSCH, G. MIES und K.A. HOSSMANN (2003):
Therapeutic induction of arteriogenesis in hypoperfused rat brain via granulocyte-macrophage colony-stimulating factor.
Circ **108**: 610-615.
- BUSCHMANN, I. und W. SCHAPER (1999):
Arteriogenesis versus angiogenesis: Two mechanisms of vessel growth.
News Physiol Sci **14**: 121-125.
- BUSCHMANN, I. und W. SCHAPER (2000):
The pathophysiology of the collateral circulation (arteriogenesis).
J Pathol **190**: 338-342.
- BUSCHMANN, I.R., I.E. HOEFER und M. HEIL (1999):
Role of colony stimulating factors during arteriogenesis (Growth of collateral arteries).
Circ **100** (Suppl. S): 1076.
- BUSCHMANN, I.R., I.E. HOEFER, N. VAN ROYEN, E. KATZER, R. BRAUN-DULLEAUS, M. HEIL, S. KOSTIN, C. BODE und W. SCHAPER (2001):
GM-CSF: a strong arteriogenic factor acting by amplification of monocyte function.
Atherosclerosis **159**: 343-356.
- BUSSOLINO, F., A. MANTOVANI und G. PERSICO (1997):
Molecular mechanisms of blood vessel formation.
Trends Biochem Sci **22**: 251-256.
- BUSSOLINO, F., J.M. WANG, P. DEFILIPPI, F. TURRINI, F. SANAVIO, C.J. EDGELL, M. AGLIETTA, P. ARESE und A. MANTOVANI (1989):
Granulocyte- and granulocyte-macrophage-colony stimulating factors induce human endothelial cells to migrate and proliferate.
Nature **337**: 471-473.
- CAPLAN, L.R. und S. SERGAY (1976):
Positional cerebral ischaemia.
J Neurol Neurosurg Psychiatry **39**: 385-391.
- CARMELIET, P. und D. COLLEN (1997):
Molecular analysis of blood vessel formation and disease.
Am J Physiol **273**: H2091-2104.
- CARMELIET, P. und D. COLLEN (1998):
Vascular development and disorders: molecular analysis and pathogenic insights.
Kidney Int **53**: 1519-1549.
- CARONNA, J.J. und S. FINKLESTEIN (1978):
Neurological syndromes after cardiac arrest.
Stroke **9**: 517-520.

CHACHOUA, A., R. ORATZ, R. HOOGMOED, D. CARON, D. PEACE, L. LIEBES, R.H. BLUM und J. VILCEK (1994):

Monocyte activation following systemic administration of granulocyte-macrophage colony-stimulating factor.

J Immunother Emphasis Tumor Immunol **15**: 217-224.

CHAN, P.H. (1996):

Role of oxidants in ischemic brain damage.

Stroke **27**: 1124-1129.

CHAPPELL, D.C., S.E. VARNER, R.M. NEREM, R.M. MEDFORD und R.W. ALEXANDER (1998):

Oscillatory shear stress stimulates adhesion molecule expression in cultured human endothelium.

Circ Res **82**: 532-539.

CHEUNG, J.Y., J.V. BONVENTRE, C.D. MALIS und A. LEAF (1986):

Calcium and ischemic injury.

N Engl J Med **314**: 1670-1676.

CHOI, D.W. (1992):

Excitotoxic cell death.

J Neurobiol **23**: 1261-1276.

CHOKI, J.I., T. YAMAGUCHI, Y. TAKEYA, Y. MOROTOMI und T. OMAE (1977):

Effect of carotid artery ligation on regional cerebral blood flow in normotensive and spontaneously hypertensive rats.

Stroke **8**: 374-379.

CONNOLLY, E.S., JR., C.J. WINFREE, D.M. STERN, R.A. SOLOMON und D.J. PINSKY (1996):

Procedural and strain-related variables significantly affect outcome in a murine model of focal cerebral ischemia.

Neurosurgery **38**: 523-531; discussion 532.

COOPER, H.K., T. ZALEWSKA, S. KAWAKAMI, K.A. HOSSMANN und P. KLEIHUES (1977):

The effect of ischaemia and recirculation on protein synthesis in the rat brain.

J Neurochem **28**: 929-934.

COYLE, P. und D.D. HEISTAD (1986):

Blood flow through cerebral collateral vessels in hypertensive and normotensive rats.

Hypertension **8**: II67-71.

COYLE, P. und D.D. HEISTAD (1987):

Blood flow through cerebral collateral vessels one month after middle cerebral artery occlusion.

Stroke **18**: 407-411.

- COYLE, P. und P.T. JOKELAINEN (1982):
Dorsal cerebral arterial collaterals of the rat.
Anat Rec **203**: 397-404.
- COYLE, P. und M.J. PANZENBECK (1990):
Collateral development after carotid artery occlusion in Fischer 344 rats.
Stroke **21**: 316-321.
- CUCINA, A., A.V. STERPETTI, V. BORRELLI, S. PAGLIEI, A. CAVALLARO und L.S. D'ANGELO (1998):
Shear stress induces transforming growth factor-beta 1 release by arterial endothelial cells.
Surgery **123**: 212-217.
- DANN, E.J., Y. FRIEDLANDER, E. LEITERSDORF und A. NAGLER (1996):
The modulation of plasma lipids and lipoproteins during bone marrow transplantation is unrelated to exogenously administered recombinant human granulocyte-monocyte colony-stimulating factor (rHu GM-CSF).
Med Oncol **13**: 81-86.
- DATE, H., K.A. HOSSMANN und T. SHIMA (1984):
Effect of middle cerebral artery compression on pial artery pressure, blood flow, and electrophysiological function of cerebral cortex of cat.
J Cereb Blood Flow Metab **4**: 593-598.
- DENECKER, G., P. VANDENABEELE, J. GROOTEN, L.C. PENNING, W. DECLERCQ, R. BEYAERT, W.A. BUURMAN und W. FIERS (1997):
Differential role of calcium in tumour necrosis factor-mediated apoptosis and secretion of granulocyte-macrophage colony-stimulating factor in a T cell hybridoma.
Cytokine **9**: 631-638.
- DIRNAGL, U., C. IADECOLA und M.A. MOSKOWITZ (1999):
Pathobiology of ischaemic stroke: an integrated view.
Trends Neurosci **22**: 391-397.
- DIRNAGL, U. und W. PULSINELLI (1990):
Autoregulation of cerebral blood flow in experimental focal brain ischemia.
J Cereb Blood Flow Metab **10**: 327-336.
- DOBKIN, B.H. (1989):
Orthostatic hypotension as a risk factor for symptomatic occlusive cerebrovascular disease.
Neurology **39**: 30-34.
- DONAHUE, R.E., J. SEEHRA, M. METZGER, D. LEFEBVRE, B. ROCK, S. CARBONE, D.G. NATHAN, M. GARNICK, P.K. SEHGAL und D. LASTON (1988):
Human IL-3 and GM-CSF act synergistically in stimulating hematopoiesis in primates.
Science **241**: 1820-1823.

- DONAHUE, R.E., E.A. WANG, D.K. STONE, R. KAMEN, G.G. WONG, P.K. SEHGAL, D.G. NATHAN und S.C. CLARK (1986):
Stimulation of haematopoiesis in primates by continuous infusion of recombinant human GM-CSF.
Nature **321**: 872-875.
- DONNELLY, G.B., J. GLASSMAN, C. LONG, P. TORRES, D.J. STRAUS, J.P. O'BRIEN, J. BERTINO, C.H. MOSKOWITZ, A.D. ZELENETZ und C.S. PORTLOCK (2000):
Granulocyte-colony stimulating factor (G-CSF) may improve disease outcome in elderly patients with diffuse large cell lymphoma (DLCL) treated with CHOP chemotherapy.
Leuk Lymphoma **39**: 67-75.
- DONNELLY, L.H., M.P. BREE, S.E. HUNTER, J.C. KEITH, JR. und R.G. SCHAUB (1997):
Immunoreactive macrophage colony-stimulating factor is increased in atherosclerotic lesions of Watanabe heritable hyperlipidemic rabbits after recombinant human macrophage colony-stimulating factor therapy.
Mol Reprod Dev **46**: 92-95.
- DU, C., R. HU, C.A. CSERNANSKY, C.Y. HSU und D.W. CHOI (1996):
Very delayed infarction after mild focal cerebral ischemia: a role for apoptosis?
J Cereb Blood Flow Metab **16**: 195-201.
- EASTERN STROKE AND CORONARY HEART DISEASE COLLABORATIVE RESEARCH GROUP (1998):
Blood pressure, cholesterol, and stroke in eastern Asia.
Lancet **352**: 1801-1807.
- EIGENBRODT, M.L., K.M. ROSE, D.J. COUPER, D.K. ARNETT, R. SMITH und D. JONES (2000):
Orthostatic hypotension as a risk factor for stroke: the atherosclerosis risk in communities (ARIC) study, 1987-1996.
Stroke **31**: 2307-2313.
- FABRICIUS, M. und M. LAURITZEN (1996):
Laser-Doppler evaluation of rat brain microcirculation: comparison with the [¹⁴C]-iodoantipyrine method suggests discordance during cerebral blood flow increases.
J Cereb Blood Flow Metab **16**: 156-161.
- FIESCHI, C., N. BATTISTINI, F. VOLANTE, E. ZANETTE, G. WEBER und S. PASSERO (1975):
Animal model of TIA: an experimental study with intracarotid ADP infusion in rabbits.
Stroke **6**: 617-621.
- FISHER, M. und J.B. MCQUILLEN (1981):
Bilateral cortical border-zone infarction. A pseudobrainstem stroke.
Arch Neurol **38**: 62-63.
- FISHER, M. und W. SCHAEBITZ (2000):
An overview of acute stroke therapy: past, present, and future.
Arch Intern Med **160**: 3196-3206.

FLAD, H.D., E. GRAGE-GRIEBENOW, B. SCHEUERER, I. DURRBAUM-LANDMANN, F. PETERSEN, E. BRANDT, J. FLEISCHER, J. BARAN, J. PRYJMA und M. ERNST (1998):

The role of cytokines in monocyte apoptosis.
Res Immunol **149**: 733-736.

FURLOW, T.W., JR. und N.H. BASS (1976):

Arachidonate-induced cerebrovascular occlusion in the rat. The role of platelets and aspirin in stroke.
Neurology **26**: 297-304.

GAMBLE, R.G., W.B. SMITH und M.A. VADAS (1992):

TNF modulation of endothelial and neutrophil adhesion.
In: Beutler, B.: Tumor necrosis factors: The molecules and their emerging role in medicine. Raven Press, New York, Ltd.: 65-86.

GARCIA, J.H. (1984):

Experimental ischemic stroke: a review.
Stroke **15**: 5-14.

GASTAUT, H., R. NAQUET und R.A. VIGOUROUX (1971):

The vascular syndrome of the parieto-temporo-occipital "triangle" based on 18 cases.
In: Zülch, K.J.: Cerebral Circulation and Stroke. Springer Verlag, Berlin-Heidelberg-New York: 82-92.

GIMBRONE, M.A., JR., T. NAGEL und J.N. TOPPER (1997):

Biomechanical activation: an emerging paradigm in endothelial adhesion biology.
J Clin Invest **99**: 1809-1813.

GRANT, S.M. und R.C. HEEL (1992):

Recombinant granulocyte-macrophage colony-stimulating factor (rGM-CSF). A review of its pharmacological properties and prospective role in the management of myelosuppression.
Drugs **43**: 516-560.

HAAPANIEMI, H., M. HILLBOM, H. NUMMINEN, S. JUVELA, H. PALOMAKI und M. KASTE (1992):

Early-morning increase in the onset ischemic stroke.
Cerebrovascular Diseases **2**: 282-286.

HACKE, W., M. KASTE, C. FIESCHI, D. TONI, E. LESAFFRE, R. VON KUMMER, G. BOYSEN, E. BLUHMKI, G. HOXTER und M.H. MAHAGNE (1995):

Intravenous thrombolysis with recombinant tissue plasminogen activator for acute hemispheric stroke. The european cooperative acute stroke study (ECASS).
Jama **274**: 1017-1025.

HACKE, W., P. RINGLEB und R. STINGELE (1999):

Thrombolysis in acute cerebrovascular disease: indications and limitations.
Thromb Haemost **82**: 983-986.

- HADEMENOS, G.J. und T.F. MASSOUD (1997):
Biophysical mechanisms of stroke.
Stroke **28**: 2067-2077.
- HAMANN, G.F. (1997):
Acute cerebral infarct: physiopathology and modern therapeutic concepts.
Radiologie **37**: 843-852.
- HATA, R., K. MAEDA, D. HERMANN, G. MIES und K.A. HOSSMANN (2000a):
Dynamics of regional brain metabolism and gene expression after middle cerebral artery occlusion in mice.
J Cereb Blood Flow Metab **20**: 306-315.
- HATA, R., K. MAEDA, D. HERMANN, G. MIES und K.A. HOSSMANN (2000b):
Evolution of brain infarction after transient focal cerebral ischemia in mice.
J Cereb Blood Flow Metab **20**: 937-946.
- HEISS, W.D. (1997):
Pathophysiologie des ischämischen Insults.
Klinikerarzt **11**: 288-292.
- HEISS, W.D., M. GROND, A. THIEL, H.M. VON STOCKHAUSEN und J. RUDOLF (1997):
Ischaemic brain tissue salvaged from infarction with alteplase.
Lancet **349**: 1599-1600.
- HENDRIKSE, J., M.J. HARTKAMP, B. HILLEN, W.P. MALI und J. VAN DER GROND (2001):
Collateral ability of the circle of Willis in patients with unilateral internal carotid artery occlusion: border zone infarcts and clinical symptoms.
Stroke **32**: 2768-2773.
- HENNINGSSEN, H. (2001):
Stroke patients in general practice. Preventing recurrent infarct.
MMW Fortschr Med **143** Suppl 2: 40-43.
- HILLEN, T., R. NIECZAJ, H. MUNZBERG, R. SCHAUB, M. BORCHELT und E. STEINHAGEN-THIESSEN (2000):
Carotid atherosclerosis, vascular risk profile and mortality in a population-based sample of functionally healthy elderly subjects: the Berlin ageing study.
J Intern Med **247**: 679-688.
- HOEFER, I.E., N. VAN ROYEN, I.R. BUSCHMANN, J.J. PIEK und W. SCHAPER (2001):
Time course of arteriogenesis following femoral artery occlusion in the rabbit.
Cardiovasc Res **49**: 609-617.
- HOSSMANN, K.A. (1977):
Total ischemia of the brain.
In: Zülch, K.J., W. Kaufmann, V. Hossmann und K.A. Hossmann: Brain and Heart Infarct.
Springer-Verlag, Berlin: 107-122.

- HOSSMANN, K.A. (1987):
Experimental principles of tolerance of the brain to ischemia.
Z Kardiol **76** Suppl 4: 47-66.
- HOSSMANN, K.A. (1993a):
Collateral circulation of the brain.
In: Schaper, W. und J. Schaper: *Collateral Circulation*. Kluwer Academic Publishers, Amsterdam, 291-315.
- HOSSMANN, K.A. (1993b):
Disturbances of cerebral protein synthesis and ischemic cell death.
Prog Brain Res **96**: 161-177.
- HOSSMANN, K.A. (1994):
Viability thresholds and the penumbra of focal ischemia.
Ann Neurol **36**: 557-565.
- HOSSMANN, K.A. (1998):
Experimental models for the investigation of brain ischemia.
Cardiovasc Res **39**: 106-120.
- HOSSMANN, K.A., H. LECHTAPE-GRUTER und V. HOSSMANN (1973):
The role of cerebral blood flow for the recovery of the brain after prolonged ischemia.
Z Neurol **204**: 281-299.
- HOSSMANN, K.A., G. MIES, W. PASCHEN, L. CSIBA, W. BODSCH, J.R. RAPIN, M. LE PONCIN-LAFITTE und K. TAKAHASHI (1985):
Multiparametric imaging of blood flow and metabolism after middle cerebral artery occlusion in cats.
J Cereb Blood Flow Metab **5**: 97-107.
- HOWARD, R., P. TREND und R.W. RUSSELL (1987):
Clinical features of ischemia in cerebral arterial border zones after periods of reduced cerebral blood flow.
Arch Neurol **44**: 934-940.
- HU, B.R., S. JANELIDZE, M.D. GINSBERG, R. BUSTO, M. PEREZ-PINZON, T.J. SICK, B.K. SIESJO und C.L. LIU (2001):
Protein aggregation after focal brain ischemia and reperfusion.
J Cereb Blood Flow Metab **21**: 865-875.
- HUDGINS, W.R. und J.H. GARCIA (1970):
Transorbital approach to the middle cerebral artery of the squirrel monkey: a technique for experimental cerebral infarction applicable to ultrastructural studies.
Stroke **1**: 107-111.
- INOUE, I., T. INABA, K. MOTOYOSHI, K. HARADA, H. SHIMANO, M. KAWAMURA, T. GOTODA, T. OKA, M. SHIOMI und Y. WATANABE (1992):
Macrophage colony stimulating factor prevents the progression of atherosclerosis in Watanabe heritable hyperlipidemic rabbits.
Atherosclerosis **93**: 245-254.

- ISHIBASHI, T., K. NAKAZATO, J. SHINDO, K. YOKOYAMA und Y. MARUYAMA (1996):
Effects of granulocyte-macrophage colony-stimulating factor on the levels of VLDL and LDL receptor mRNAs in vivo.
J Atheroscler Thromb **2**: 76-80.
- ISHIBASHI, T., K. YOKOYAMA, J. SHINDO, Y. HAMAZAKI, Y. ENDO, T. SATO, S. TAKAHASHI, Y. KAWARABAYASI, M. SHIOMI und T. YAMAMOTO (1994):
Potent cholesterol-lowering effect by human granulocyte-macrophage colony-stimulating factor in rabbits. Possible implications of enhancement of macrophage functions and an increase in mRNA for VLDL receptor.
Arterioscler Thromb **14**: 1534-1541.
- ITO, U., M. SPATZ, J.T. WALKER, JR. und I. KLATZO (1975):
Experimental cerebral ischemia in mongolian gerbils. I. Light microscopic observations.
Acta Neuropathol (Berl) **32**: 209-223.
- ITO, W.D., M. ARRAS, D. SCHOLZ, B. WINKLER, P. HTUN und W. SCHAPER (1997a):
Angiogenesis but not collateral growth is associated with ischemia after femoral artery occlusion.
Am J Physiol **273**: H1255-1265.
- ITO, W.D., M. ARRAS, B. WINKLER, D. SCHOLZ, J. SCHAPER und W. SCHAPER (1997b):
Monocyte chemotactic protein-1 increases collateral and peripheral conductance after femoral artery occlusion.
Circ Res **80**: 829-837.
- JONES, T.C. (1993):
The effects of rhGM-CSF on macrophage function.
Eur J Cancer **29A** Suppl 3: S10-13.
- JUST, U., J. FRIEL, C. HEBERLEIN, T. TAMURA, M. BACCARINI, U. TESSMER, K. KLINGLER und W. OSTERTAG (1993):
Upregulation of lineage specific receptors and ligands in multipotential progenitor cells is part of an endogenous program of differentiation.
Growth Factors **9**: 291-300.
- KAASIK, A.E., L. NILSSON und B.K. SIESJÖ (1970):
The effect of arterial hypotension upon the lactate, pyruvate and bicarbonate concentrations of brain tissue and cisternal CSF, and upon the tissue concentrations of phosphocreatine and adenine nucleotides in anesthetized rats.
Acta physiol. scand. **78**: 448-458.
- KAHN, H.S. (1984):
Primary orthostatic cerebral ischaemia.
J Neurol Neurosurg Psychiatry **47**: 754-755.
- KAMEYAMA, M., J. SUZUKI, R. SHIRANE und A. OGAWA (1985):
A new model of bilateral hemispheric ischemia in the rat-three vessel occlusion model.
Stroke **16**: 489-493.

- KANO, I., K. UEMURA, S. HIGANO, M. MURAKAMI, H. IIEDA, S. MIURA, F. SHISHIDO, A. INUGAMI und I. SAYAMA (1988):
Oxygen extraction fraction at maximally vasodilated tissue in the ischemic brain estimated from the regional CO₂ responsive-ness measured by positron emission tomography.
J Cereb Blood Flow Metab **8**: 227-235.
- KATZ, L., U. EBMEYER, P. SAFAR, A. RADOVSKY und R. NEUMAR (1995):
Outcome model of asphyxial cardiac arrest in rats.
J Cereb Blood Flow Metab **15**: 1032-1039.
- KAWAI, K., L. NITECKA, C.A. RUETZLER, G. NAGASHIMA, F. JOO, G. MIES, T.S. NOWAK, JR., N. SAITO, J.M. LOHR und I. KLATZO (1992):
Global cerebral ischemia associated with cardiac arrest in the rat: I. Dynamics of early neuronal changes.
J Cereb Blood Flow Metab **12**: 238-249.
- KAWATA, Y., K. SAKO und Y. YONEMASU (1996):
Sequential changes in cerebrovascular reserve capacity in three-vessel occlusion rats.
Brain Res **739**: 330-334.
- KEMPSKI, O.S. (1994):
Neuroprotection. Models and basic principles.
Anaesthesist **43** Suppl 2: S25-33.
- KEUNEN, R.W.M., R.G.A. ACKERSTAFF, D.F. STEGEMANN und B.P.M. SCHULTE (1989):
The impact of internal carotid artery occlusion and the integrity of the circle of Willis on cerebral vasomotor reactivity - a transcranial Doppler study.
In: Meyer, J.S.: Cerebral Vascular Disease. Elsevier Science Publishers Biomedical Division, Amsterdam, 85-88.
- KIESSLING, M. und K.A. HOSSMANN (1994):
Focal cerebral ischemia: molecular mechanisms and new therapeutic strategies.
Brain Pathol **4**: 21-22.
- KIRINO, T. (1982):
Delayed neuronal death in the gerbil hippocampus following ischemia.
Brain Res **239**: 57-69.
- KIRINO, T. und K. SANO (1984):
Selective vulnerability in the gerbil hippocampus following transient ischemia.
Acta Neuropathol (Berl) **62**: 201-208.
- KLEIN, B., C. LE BOUSSE-KERDILES, F. SMADJA-JOFFE, I. PRAGNELL, W. OSTERTAG und C. JASMIN (1982):
A study of added GM-CSF independent granulocyte and macrophage precursors in mouse spleen infected with myeloproliferative sarcoma virus (MPSV).
Exp Hematol **10**: 373-382.

- KOBAYASHI, M., W.D. LUST und J.V. PASSONNEAU (1977):
Concentrations of energy metabolites and cyclic nucleotides during and after bilateral ischemia in the gerbil cerebral cortex.
J Neurochem **29**: 53-59.
- KOGURE, K. und O.F. ALONSO (1978):
A pictorial representation of endogenous brain ATP by a bioluminescent method.
Brain Res **154**: 273-284.
- KOGURE, K. und H. KATO (1992):
Neurochemistry of stroke.
In: Barnett, H.J.M., J.P. Mohr und B.M. Stein: *Stroke, pathophysiology, diagnosis and management*. Churchill Livingstone, New York Edingburgh London, 69-101.
- KOIZUMI, J., Y. YOSHIDA, T. NAKAZAWA und G. OONEDA (1986):
Experimental studies of ischemic brain edema. 1. A new experimental model of cerebral embolism in rats in which recirculation can be introduced in the ischemic area.
Jpn J Stroke **8**: 1-8.
- KRISTIAN, T. und B.K. SIESJO (1998):
Calcium in ischemic cell death.
Stroke **29**: 705-718.
- KUDO, M., A. AOYAMA, S. ICHIMORI und N. FUKUNAGA (1982):
An animal model of cerebral infarction. Homologous blood clot emboli in rats.
Stroke **13**: 505-508.
- LEBLANC, R., Y.L. YAMAMOTO, J.L. TYLER, M. DIKSIC und A. HAKIM (1987):
Borderzone ischemia.
Ann Neurol **22**: 707-713.
- LEVINE, R.L., J.J. SUNDERLAND, H.L. LAGREZE, R.J. NICKLES, B.R. ROWE und P.A. TURSKI (1988):
Perfusion reserve indexes determined by fluoromethane positron emission scanning.
Stroke **19**: 19-27.
- LEVINE, S. und H. PAYAN (1966):
Effects of ischemia and other procedures on the brain and retina of the gerbil (*Meriones unguiculatus*).
Exp Neurol **16**: 255-262.
- MANSON, J.E., G.A. COLDITZ, M.J. STAMPFER, W.C. WILLETT, A.S. KROLEWSKI, B. ROSNER, R.A. ARKY, F.E. SPEIZER und C.H. HENNEKENS (1991):
A prospective study of maturity-onset diabetes mellitus and risk of coronary heart disease and stroke in women.
Arch Intern Med **151**: 1141-1147.
- MARKUS, H. und M. CULLINANE (2001):
Severely impaired cerebrovascular reactivity predicts stroke and TIA risk in patients with carotid artery stenosis and occlusion.
Brain **124**: 457-467.

MARKUS, H.S., A. CLIFTON, T. BUCKENHAM, R. TAYLOR und M.M. BROWN (1996):
Improvement in cerebral hemodynamics after carotid angioplasty.
Stroke **27**: 612-616.

MARLER, J.R., B.C. TILLEY, M. LU, T.G. BROTT, P.C. LYDEN, J.C. GROTTA, J.P.
BRODERICK, S.R. LEVINE, M.P. FRANKEL, S.H. HOROWITZ, E.C. HALEY, JR., C.A.
LEWANDOWSKI und T.P. KWIATKOWSKI (2000):
Early stroke treatment associated with better outcome: the NINDS rt-PA stroke study.
Neurology **55**: 1649-1655.

MENDELOW, A.D., D.I. GRAHAM, J. MCCULLOCH und A.A. MOHAMED (1984):
The Distribution of ischaemic damage and cerebral blood flow after unilateral carotid
occlusion and hypotension in the rat.
Stroke **15**: 704-710.

MEYER, J.E. (1958):
Zur Lokalisation arteriosklerotischer Erweichungsherde in arteriellen Grenzgebieten des
Gehirns.
Arch. Psychiat. Nervenkr. **196**: 421-432.

MIES, G. (1995):
Bildgebende Meßverfahren in der experimentellen Neurologie.
Nervenheilkunde **14**: 444-451.

MIES, G., B. DJURICIC, W. PASCHEN und K.A. HOSSMANN (1997):
Quantitative measurement of cerebral protein synthesis in vivo: theory and methodological
considerations.
J Neurosci Methods **76**: 35-44.

MIES, G., S. ISHIMARU, Y. XIE, K. SEO und K.A. HOSSMANN (1991):
Ischemic thresholds of cerebral protein synthesis and energy state following middle cerebral
artery occlusion in rat.
J Cereb Blood Flow Metab **11**: 753-761.

MIES, G., O. KLOIBER, L.R. DREWES und K.A. HOSSMANN (1984):
Cerebral blood flow and regional potassium distribution during focal ischemia of gerbil brain.
Ann Neurol **16**: 232-237.

MITCHINSON, M.J. (1980):
The hypotensive stroke.
Lancet **1**: 244-246.

MOSSO, M. und R.W. BAUMGARTNER (2000):
Carotid stenosis: epidemiology and symptomatology (see comment).
Schweiz Med Wochenschr **130**: 1226-1230.

MUNN, D.H., A.G. BREE, A.C. BEALL, M.D. KAVIANI, H. SABIO, R.G. SCHAUB, R.K. ALPAUGH, L.M. WEINER und S.J. GOLDMAN (1996):

Recombinant human macrophage colony-stimulating factor in nonhuman primates: selective expansion of a CD16+ monocyte subset with phenotypic similarity to primate natural killer cells.

Blood **88**: 1215-1224.

NAGASAWA, H. und K. KOGURE (1989):

Correlation between cerebral blood flow and histologic changes in a new rat model of middle cerebral artery occlusion.

Stroke **20**: 1037-1043.

NEDERGAARD, M., A. GJEDDE und N.H. DIEMER (1986):

Focal ischemia of the rat brain: autoradiographic determination of cerebral glucose utilization, glucose content, and blood flow.

J Cereb Blood Flow Metab **6**: 414-424.

NORRVING, B., B. NILSSON und J. RISBERG (1982):

rCBF in patients with carotid occlusion - resting and hypercapnic flow related to collateral pattern.

Stroke **13**: 155-162.

O'BRIEN, M.D. und A.G. WALTZ (1973):

Transorbital approach for occluding the middle cerebral artery without craniectomy.

Stroke **4**: 201-206.

OHNO, M., J.P. COOKE, V.J. DZAU und G.H. GIBBONS (1995):

Fluid shear stress induces endothelial transforming growth factor beta-1 transcription and production. Modulation by potassium channel blockade.

J Clin Invest **95**: 1363-1369.

PASCHEN, W. (1990):

Imaging of energy metabolites (ATP, glucose and lactate) in tissue sections: a bioluminescent technique.

Prog Histochem Cytochem **20**: 1-122.

PASCHEN, W., G. MIES und K.A. HOSSMANN (1992):

Threshold relationship between cerebral blood flow, glucose utilization, and energy metabolites during development of stroke in gerbils.

Exp Neurol **117**: 325-333.

PAULSON, O.B., S. STRANDGAARD und L. EDVINSSON (1990):

Cerebral autoregulation.

Cerebrovasc Brain Metab Rev **2**: 161-192.

PAXINOS, G. (1995):

The rat nervous system.

San Diego, USA

- PLENZ, G., C. KOENIG, N.J. SEVERS und H. ROBENEK (1997):
Smooth muscle cells express granulocyte-macrophage colony-stimulating factor in the undiseased and atherosclerotic human coronary artery.
Arterioscler Thromb Vasc Biol **17**: 2489-2499.
- POECK, K. und W. HACKE (2001):
Zerebrale Durchblutungsstörungen: Ischämische Infarkte.
In: Poeck, K. und W. Hacke: *Neurologie*. Springer Verlag, Heidelberg, 185-238.
- POLVERINI, P.J., P.S. COTRAN, M.A. GIMBRONE, JR. und E.R. UNANUE (1977):
Activated macrophages induce vascular proliferation.
Nature **269**: 804-806.
- PONTEN, U., R.A. RATCHESON, L.G. SALFORD und B.K. SIESJO (1973):
Optimal freezing conditions for cerebral metabolites in rats.
J Neurochem **21**: 1127-1138.
- PROSPECTIVE STUDIES COLLABORATION (1995):
Cholesterol, diastolic blood pressure, and stroke: 13,000 strokes in 450,000 people in 45 prospective cohorts.
Lancet **346**: 1647-1653.
- PULSINELLI, W. (1992):
Pathophysiology of acute ischaemic stroke.
Lancet **339**: 533-536.
- PULSINELLI, W.A. und J.B. BRIERLEY (1979):
A new model of bilateral hemispheric ischemia in the unanesthetized rat.
Stroke **10**: 267-272.
- PULSINELLI, W.A., J.B. BRIERLEY und F. PLUM (1982):
Temporal profile of neuronal damage in a model of transient forebrain ischemia.
Ann Neurol **11**: 491-498.
- PULSINELLI, W.A., D.E. LEVY und T.E. DUFFY (1983):
Cerebral blood flow in the four-vessel occlusion rat model.
Stroke **14**: 832-834.
- RESNICK, N. und M.A. GIMBRONE, JR. (1995):
Hemodynamic forces are complex regulators of endothelial gene expression.
Faseb J **9**: 874-882.
- RINGELSTEIN, E.B., C. WEILLER, M. WECKESSER und S. WECKESSER (1994):
Cerebral vasomotor reactivity is significantly reduced in low-flow as compared to thromboembolic infarctions: the key role of the circle of Willis.
J Neurol Sci **121**: 103-109.
- RINGELSTEIN, E.B., H. ZEUMER und D. ANGELOU (1983):
The pathogenesis of strokes from internal carotid artery occlusion. Diagnostic and therapeutical implications.
Stroke **14**: 867-875.

- RISAU, W. (1997):
Mechanisms of angiogenesis.
Nature **386**: 671-674.
- RISAU, W. (1998):
Angiogenesis is coming of age.
Circ Res **82**: 926-928.
- RISAU, W. und I. FLAMME (1995):
Vasculogenesis.
Annu Rev Cell Dev Biol **11**: 73-91.
- ROMANOUL, F.C.A. und A. ABRAMOVICZ (1964):
Changes in brain and pial vessels in anterior borderzones. A study of 13 cases.
Arch. Neurol. **11**: 40-65.
- ROSS, H.J. und H.P. KOEFFLER (1992):
Interactions between TNF and GM-CSF.
In: Beutler, B.: Tumor necrosis factors: The molecules and their emerging role in medicine.
Raven Press, Ltd., New York, 179-196.
- RUFF, R.L., W.T. TALMAN und F. PETITO (1981):
Transient ischemic attacks associated with hypotension in hypertensive patients with carotid artery stenosis.
Stroke **12**: 353-355.
- SAGE, J.I. und R.L. VAN UITERT (1986):
Man-in-the-barrel syndrome.
Neurology **36**: 1102-1103.
- SAKAI, K., M. MOHTAI und Y. IWAMOTO (1998):
Fluid shear stress increases transforming growth factor beta 1 expression in human osteoblast-like cells: modulation by cation channel blockades.
Calcif Tissue Int **63**: 515-520.
- SAKURADA, O., C. KENNEDY, J. JEHLE, J.D. BROWN, G.L. CARBIN und L. SOKOLOFF (1978):
Measurement of local cerebral blood flow with iodo [¹⁴C] antipyrine.
Am J Physiol **234**: H59-66.
- SCHAPER, W. und I. BUSCHMANN (1999a):
Arteriogenesis, the good and bad of it.
Eur Heart J **20**: 1297-1299.
- SCHAPER, W. und I. BUSCHMANN (1999b):
Collateral circulation and diabetes.
Circulation **99**: 2224-2226.

SCHAPER, W. und S. PASYK (1976):

Influence of collateral flow on the ischemic tolerance of the heart following acute and subacute coronary occlusion.

Circulation **53**: 157-62.

SCHAUB, R.G., M.P. BREE, L.L. HAYES, M.A. RUDD, L. RABBANI, J. LOSCALZO und S.K. CLINTON (1994):

Recombinant human macrophage colony-stimulating factor reduces plasma cholesterol and carrageenan granuloma foam cell formation in Watanabe heritable hyperlipidemic rabbits.

Arterioscler Thromb **14**: 70-76.

SCHIELE, T.M., R. NIEHUES, W. KNOBLOCH, G. METZGER und R. JACKSCH (2000):

Interventions in carotid stenoses: carotid surgery, percutaneous transluminal balloon angioplasty and stent implantation. Indications, results of clinical studies. An overview.

Z Kardiol **89**: 2-8.

SCHOENBERG, B.S., D.W. ANDERSON und A.F. HAERER (1986):

Racial differentials in the prevalence of stroke. Copiah County, Mississippi.

Arch Neurol **43**: 565-568.

SCHOLZ, D., W. ITO, I. FLEMING, E. DEINDL, A. SAUER, M. WIESNET, R. BUSSE, J. SCHAPER und W. SCHAPER (2000):

Ultrastructure and molecular histology of rabbit hind-limb collateral artery growth (arteriogenesis).

Virchows Arch **436**: 257-270.

SEILER, C., T. POHL, K. WUSTMANN, D. HUTTER, P.A. NICOLET, S. WINDECKER, F.R. EBERLI und B. MEIER (2001):

Promotion of collateral growth by granulocyte-macrophage colony-stimulating factor in patients with coronary artery disease: a randomized, double-blind, placebo-controlled study.

Circulation **104**: 2012-2017.

SHARP, F.R., A. LU, Y. TANG und D.E. MILLHORN (2000):

Multiple molecular penumbras after focal cerebral ischemia.

J Cereb Blood Flow Metab **20**: 1011-1032.

SHINDO, J., T. ISHIBASHI, K. YOKOYAMA, K. NAKAZATO, T. OHWADA, M.

SHIOMI und Y. MARUYAMA (1999):

Granulocyte-macrophage colony-stimulating factor prevents the progression of atherosclerosis via changes in the cellular and extracellular composition of atherosclerotic lesions in watanabe heritable hyperlipidemic rabbits.

Circulation **99**: 2150-2156.

SHINTON, R. und G. BEEVERS (1989):

Meta-analysis of relation between cigarette smoking and stroke.

Bmj **298**: 789-794.

SHUAIB, A. und V.C. HACHINSKI (1991):

Mechanisms and management of stroke in the elderly.

Cmaj **145**: 433-443.

- SHYY, J.Y., M.C. LIN, J. HAN, Y. LU, M. PETRIME und S. CHIEN (1995):
The cis-acting phorbol ester "12-O-tetradecanoylphorbol 13-acetate"-responsive element is involved in shear stress-induced monocyte chemotactic protein 1 gene expression.
Proc Natl Acad Sci U S A **92**: 8069-8073.
- SHYY, Y.J., H.J. HSIEH, S. USAMI und S. CHIEN (1994):
Fluid shear stress induces a biphasic response of human monocyte chemotactic protein 1 gene expression in vascular endothelium.
Proc Natl Acad Sci U S A **91**: 4678-4682.
- SIESJO, B.K. (1981):
Cell damage in the brain: a speculative synthesis.
J Cereb Blood Flow Metab **1**: 155-185.
- SIESJO, B.K. (1992):
Pathophysiology and treatment of focal cerebral ischemia. Part II: Mechanisms of damage and treatment.
J Neurosurg **77**: 337-354.
- SIESJO, B.K. und N.N. ZWETNOW (1970):
Effects of increased cerebrospinal fluid pressure upon adenine nucleotides and upon lactate and pyruvate in rat brain tissue.
Acta Neurol Scand **46**: 187-202.
- SMITH, M.L., G. BENDEK, N. DAHLGREN, I. ROSEN, T. WIELOCH und B.K. SIESJO (1984):
Models for studying long-term recovery following forebrain ischemia in the rat. 2. A 2-vessel occlusion model.
Acta Neurol Scand **69**: 385-401.
- SONG, R.H., H.K. KOCHARYAN, J.E. FORTUNATO, S. GLAGOV und H.S. BASSIOUNY (2000):
Increased flow and shear stress enhance in vivo transforming growth factor-beta1 after experimental arterial injury.
Arterioscler Thromb Vasc Biol **20**: 923-930.
- STARK, R.J. und J. WODAK (1983):
Primary orthostatic cerebral ischaemia.
J Neurol Neurosurg Psychiatry **46**: 883-891.
- STATISTISCHES BUNDESAMT, WIESBADEN (1998)
- STEINER, T., H.J. HENNES, R. KRETZ und W. HACKE (2000):
Treatment of acute clinical stroke.
Anaesthesist **49**: 2-8.
- SUDLOW, C.L. und C.P. WARLOW (1997):
Comparable studies of the incidence of stroke and its pathological types: results from an international collaboration. International Stroke Incidence Collaboration.
Stroke **28**: 491-499.

SWANSON, R.A., M.T. MORTON, G. TSAO-WU, R.A. SAVALOS, C. DAVIDSON und F.R. SHARP (1990):

A semiautomated method for measuring brain infarct volume.
J Cereb Blood Flow Metab **10**: 290-293.

SYMON, L., N.M. BRANSTON, A.J. STRONG und T.D. HOPE (1977):

The concepts of thresholds of ischaemia in relation to brain structure and function.
J Clin Pathol Suppl (R Coll Pathol) **11**: 149-154.

TAKESHITA, S., L.P. ZHENG, E. BROGI, M. KEARNEY, L.Q. PU, S. BUNTING, N. FERRARA, J.F. SYMES und J.M. ISNER (1994):

Therapeutic angiogenesis. A single intraarterial bolus of vascular endothelial growth factor augments revascularization in a rabbit ischemic hind limb model.
J Clin Invest **93**: 662-670.

TAMURA, A., D.I. GRAHAM, J. MCCULLOCH und G.M. TEASDALE (1981):

Focal cerebral ischaemia in the rat: 1. Description of technique and early neuropathological consequences following middle cerebral artery occlusion.
J Cereb Blood Flow Metab **1**: 53-60.

TERLECKI, S., B.A. BALDWIN und F.R. BELL (1967):

Experimental cerebral ischaemia in sheep. Neuropathology and clinical effects.
Acta Neuropathol (Berl) **7**: 185-200.

TOOLE, J.F., L.E. CHAMBLESS, G. HEISS, H.A. TYROLER und C.C. PATON (1993):

Prevalence of stroke and transient ischemic attacks in the atherosclerosis risk in communities (ARIC) study.
Ann Epidemiol **3**: 500-503.

VAN ROYEN, N., I. HOEFER, I. BUSCHMANN, M. HEIL, S. KOSTIN, E. DEINDL, S. VOGEL, T. KORFF, H. AUGUSTIN, C. BODE, J.J. PIEK und W. SCHAPER (2002):

Exogenous application of transforming growth factor beta 1 stimulates arteriogenesis in the peripheral circulation.
Faseb J **16**: 432-434.

VAN ROYEN, N., I.E. HOEFER und I.R. BUSCHMANN (2000):

Transforming growth factor- β is a powerful promotor of arteriogenesis.
J Am Coll Cardiol **35** (Suppl. A): 307A.

VAN ROYEN, N., J.J. PIEK, I. BUSCHMANN, I. HOEFER, M. VOSKUIL und W. SCHAPER (2001):

Stimulation of arteriogenesis; a new concept for the treatment of arterial occlusive disease.
Cardiovasc Res **49**: 543-553.

VASSILOUTHIS, J. (1980):

Hypotensive stroke.
Lancet **1**: 767.

WISE, W.M., F. SCHUIER, K.A. HOSSMANN, S. TAKAGI und K.J. ZULCH (1977):

Cerebral microembolization. I. Pathophysiological studies.
Arch Neurol **34**: 660-665.

VOGEL, S.N. (1992):

The Lps gene: insights into the genetic and molecular basis of LPS responsiveness and macrophage differentiation.

In: Beutler, B.: Tumor necrosis factors: The molecules and their emerging role in medicine. Raven Press, Ltd., New York, 485-513.

VON KUMMER, R., U. MEYDING-LAMADE, M. FORSTING, L. ROSIN, K. RIEKE, W. HACKE und K. SARTOR (1994):

Sensitivity and prognostic value of early CT in occlusion of the middle cerebral artery trunk. AJNR Am J Neuroradiol **15**: 9-18.

WADE, J.G., O. AMTORP und S.C. SORENSEN (1975):

No-flow state following cerebral ischemia. Role of increase in potassium concentration in brain interstitial fluid.

Arch Neurol **32**: 381-384.

WANNAMETHEE, S.G. (1999):

Risk factors for stroke: overview.

J Cardiovasc Risk **6**: 199-202.

WATSON, B.D., W.D. DIETRICH, R. BUSTO, M.S. WACHTEL und M.D. GINSBERG (1985):

Induction of reproducible brain infarction by photochemically initiated thrombosis.

Ann Neurol **17**: 497-504.

WHITE, B.C., J.M. SULLIVAN, D.J. DEGRACIA, B.J. O'NEIL, R.W. NEUMAR, L.I. GROSSMAN, J.A. RAFOLS und G.S. KRAUSE (2000):

Brain ischemia and reperfusion: molecular mechanisms of neuronal injury.

J Neurol Sci **179**: 1-33.

WHITE, R.P. und H.S. MARKUS (1997):

Impaired dynamic cerebral autoregulation in carotid artery stenosis.

Stroke **28**: 1340-1344.

WOLF, C., W.J. CAI, R. VOSSCHULTE, S. KOLTAI, D. MOUSAVIPOUR, D. SCHOLZ, A. AFSAH-HEDJRI, W. SCHAPER und J. SCHAPER (1998):

Vascular remodeling and altered protein expression during growth of coronary collateral arteries.

J Mol Cell Cardiol **30**: 2291-2305.

WOLF, P.A., R.D. ABBOTT und W.B. KANNEL (1991):

Atrial fibrillation as an independent risk factor for stroke: the Framingham Study.

Stroke **22**: 983-988.

WOLF, P.A., R.B. D'AGOSTINO, W.B. KANNEL, R. BONITA und A.J. BELANGER (1988):

Cigarette smoking as a risk factor for stroke. The Framingham Study.

Jama **259**: 1025-1029.

YAMAUCHI, Y., H. KATO und K. KOGURE (1990):

Brain damage in a new hemorrhagic shock model in the rat using long-term recovery.

J Cereb Blood Flow Metab **10**: 207-212.

ZIEGELSTEIN, R.C., P.S. BLANK, L. CHENG und M.C. CAPOGROSSI (1998):

Cytosolic alkalinization of vascular endothelial cells produced by an abrupt reduction in fluid shear stress.

Circ Res **82**: 803-809.

ZIVIN, J.A. und D.W. CHOI (1991):

Stroke therapy.

Sci Am **265**: 56-63.

ZÜLCH, K.J. (1961):

Die Pathogenese von Massenblutungen und Erweichungen unter besonderer Berücksichtigung klinischer Gesichtspunkte.

Acta Neurochir. (Wien) **7** (Suppl.): 51-117.