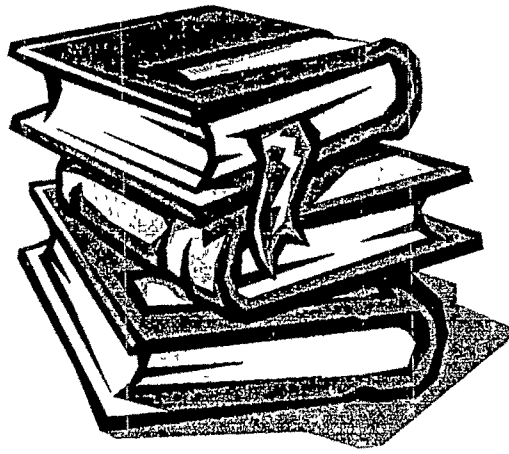


CHAPTER 7



BIBLIOGRAPHY



-
- Agrawal, A.K., Rao, C.V., Sairam, K., Joshi, V.K., Goel, R.K. (2000) Effect of *Piper longum* Linn, *Zingiber officinalis* Linn and *Ferula* species on gastric ulceration and secretion in rats. *Ind. J. Exp. Biol.* 38(10): 994-998.
 - Ahmad, S. (1991) Conference of Pharmacology and Symposium on Herbal Drugs (New Delhi), 15: 26.
 - Akhtar, M.S., Munir, M. (1989) Evaluation of the gastric antiulcerogenic effects of *Solanum nigrum*, *Brassica oleracea* and *Ocimum basilicum* in rats. *J. Ethnopharmacol.* 27(1-2): 163-76.
 - Akhtar, M.S., Qureshi, A.Q., Iqbal, J. (1990) Antidiabetic evaluation of *Mucuna pruriens*, Linn seeds. *J. Pak. Med. Assoc.* 40(7): 147-150.
 - Akhtar, M.S., Akhtar, A.H., Khan, M.A. (1992) Antiulcerogenic effects of *Ocimum basilicum* extracts, volatile oils and flavonoid glycosides in albino rats. *Int. J. Pharmacog.* 30: 97-104.
 - Allegra, C., Pollari, G., Criscuolo, A., Bonifacio, M., Tabassi, D. (1981) *Centella asiatica* extract in venous disorders of the lower limbs. Comparative clinico-instrumental studies with a placebo. *Clin Ter.* 99(5): 507-513.
 - Al-Rehaily, A.J., Al-Howiriny, T.A., Al-Sohaibani, M.O., Rafatullah, S., (2002) Gastroprotective effects of 'Amla' *Embllica officinalis* on *in vivo* test models in rats. *Phytomedicine* 9: 515-522
 - Al-Shabanah, O.A., Alam, K., Nagi, M.N., Al-Rikabi, A.C., Al-Bekairi, A.M. (2000) Protective effect of aminoguanidine, a nitric oxide synthase inhibitor against CCl₄-induced hepatotoxicity in mice. *Life Sciences* 66: 265-270.
 - Ames, B.N. (1983) Dietary carcinogens and anti-carcinogens: oxygen radicals and degenerative diseases. *Science* 221: 1256-1264.
 - Anonymous (1978) *The Ayurvedic Formulary of India*, Dept. of Health, Ministry of Health and Family Planning, Govt. of India, Part I, ed. 1: p. 44, 51, 53, 54, 185, 442, 450.
 - Anonymous (1986) Magic Medicine of plants. *Readers Digest Assn. Inc.*, New York: 337.

- Aruoma, O.I., Halliwell, B., (1987) Superoxide-dependent and ascorbate-dependent formation of hydroxyl radicals from hydrogen peroxide in the presence of iron. *Biochem. J.* 241: 273-278.
- Aruoma, O.I., Halliwell, B. (1988) The iron-binding and hydroxyl radical scavenging action of anti-inflammatory drugs. *Xenobiotica* 18(4): 459-470.
- Aruoma, O.I., Halliwell, B., Dizdaroglu, M. (1989) Iron-ion dependent modification of bases in DNA by the superoxide radical generating system hypoxanthine/xanthine oxidase. *J. Biol. Chem.* 264: 13024-13028.
- Aruoma, O.I. (1994) Nutrition and health aspects of free radicals and antioxidants. *Fd. Chem. Toxicol.* 32(7): 671-683.
- Aruoma, O.I., Spencer, J.P.E., Warren, D., Jenner, P., Butler, J., Halliwell, B. (1997) Characterization of food antioxidants, illustrated using commercial garlic and ginger preparations. *Food Chem.* 60: 149-156.
- Asimakis, G.K., Inners-McBride, K., Medellin, G., Conti, V.R. (1992) Ischemic preconditioning attenuates acidosis and postischemic dysfunction in isolated rat heart. *Am. J. Physiol.* 263: 887-894.
- Athar, M., Zakir Hussain, S., Hasan, N. (1997) Drug metabolizing enzymes in the liver. In: Rana, S.V.S., Taketa, K. (Eds.), *Liver and Environmental Xenobiotics*. Narosa Publishing House, New Delhi.
- Aust, S.D., Morehouse, L.A., Thomas, C.E. (1985) Role of metals in oxygen radical reactions. *Free Radic. Biol. Med.* 1: 3-8.
- Bandyopadhyay, U., Das, D., Banerjee, R.K. (1999) Reactive oxygen species: Oxidative damage and pathogenesis. *Curr. Sci.* 77(5): 658-666.
- Banerjee, S.K., Maulik, M., Manchanda, S.C., Dinda, A.K., Das, T.K., Maulik, S.K. (2001) Garlic-induced alteration in rat liver and kidney morphology and associated changes in endogenous antioxidant status. *Food Chem. Toxicol.* 39: 793-797.
- Bast, A., Haenen, G.R.M.M., Doelman, C.J.A. (1991) Oxidants and antioxidants: State of the art. *The Am. J. Med.* 91(suppl 3C): 3C-2S to 3C-13S.

- Beauchamp, C., Fridovich, I. (1971) Superoxide dismutase: Improved assays and an assay applicable to acrylamide gels. *Anal. Biochem.* 44: 276-277.
- Bhat, V.B., Madyastha, K.M. (2000) C-phycoerythrin: a potent peroxyl radical scavenger *in vivo* and *in vitro*. *Biochem. Biophys. Res. Commun.* 275: 20-25.
- Bhattacharya, A., Chatterjee, A., Ghosal, S., Bhattacharya, S.K. (1999) Antioxidant activity of active tannoid principles of *E. officinalis*. *Ind. J. Exp. Biol.* 37: 676-680.
- Bhattacharya, S.K., Bhattacharya, A., Chakrabarti, A. (2000) Adaptogenic activity of Siotone, a polyherbal formulation of Ayurvedic rasayanas. *Ind. J. Exp. Biol.* 38(2): 119-128.
- Bhattacharya, A., Ghosal, S., Bhattacharya, S.K. (2001) Antioxidant effect of *Withania somnifera* glycowithanolides in chronic footshock stress-induced perturbations of oxidative free radical scavenging enzymes and lipid peroxidation in rat frontal cortex and striatum. *J. Ethnopharmacol.* 74: 1-6.
- Bhutani, K.K. (2003) Herbal medicines-an enigma and challenge to science and directions for new initiatives. *Ind. J. Nat. Prod.* 19(1): 3-10.
- Bishayi, B., Roychowdhury, S., Ghosh, S., Sengupta, M. (2002) Hepatoprotective and immunomodulatory properties of *Tinospora cordifolia* in CCl₄ intoxicated mature albino rats. *J. Toxicol. Sci.* 27(3): 139-146.
- Bogin, E., Marom, M., Levi, Y. (1994) Changes in serum, liver and kidneys of cisplatin-treated rats; effects of antioxidants. *Eur. J. Clin. Chem. Biochem.* 32: 843-851.
- Bolli, R. (1998) Basic and clinical aspect of myocardial stunning. *Prog. Cardiovas. Dis.* 40: 477-516.
- Bonting, S.L. (1970) Presence of enzyme system in mammalian tissues. *Membrane and Ion transport*. London: Wiley Inter Science: p. 257-263.

- Boyd, S.C., Sasame, H.A., Boyd, M.R. (1981) Gastric glutathione depletion and acute ulcerogenesis by diethylmaleate given subcutaneously to rats. *Life Sci.* 28: 2987-2992.
- Breimer, L.H. (1988) Ionizing radiation-induced mutagenesis. *Br. J. Cancer* 57: 6-18.
- Brown, M.S., Goldstein, J.L. (1974) Familial hypercholesterolemia: defective binding of lipoproteins to cultured fibroblasts associated with impaired regulation of 3-hydroxy-3-methylglutaryl coenzyme A reductase activity. *Proc. Natl. Acad. Sci. USA.* 71(3): 788-792.
- Brodie, D.A. (1966) The mechanism of gastric hyperacidity produced by pyloric-ligation in the rat. *Am. J. Dig. Dis.* 111: 231-241.
- Brodie, D., Marshall, R.W., Moreno, O.M. (1962) Effect of restraint on gastric acidity in rat. *Am. J. Physiol.* 202: 812-814.
- Caceres, A., Cabrera, O., Morales, O., Mollinedo, P., Mendia, P. (1991) Pharmacological properties of *Moringa oleifera*. 1: Preliminary screening for antimicrobial activity. *J. Ethnopharmacol.* 33(3): 213-216.
- Caceres, A., Saravia, A., Rizzo, S., Zabala, L., De Leon, E., Nave, F. (1992) Pharmacological properties of *Moringa oleifera*. 2: Screening for antispasmodic, antiinflammatory and diuretic activity. *J. Ethnopharmacol.* 36(3): 233-237.
- Camejo, G., Waich, S., Qintero, G., Berrizleitia, M.L., Lalguna, F. (1976) The affinity of low-density lipoproteins for an arterial macromolecular complex. *Atherosclerosis* 24: 341-347.
- Castro, J., Sasame, H., Sussman, H., Bullette, P. (1968) Diverse effects of SKF 525A and antioxidants on CCl₄-induced changes in liver microsomal P450 content and ethylmorphine metabolism. *Life Sciences* 7: 129-136.
- Cavanagh, E.M., Fraga, C.G., Ferder, L., Inserra, F. (1997) Enalapril and captopril enhance antioxidant defenses in mouse tissues. *Am. J. Physiol.* 272: R514-R518.
- Chander, R., Kharina, A.K., Kapoor, N.K. (1996) Lipid lowering activity of Guggulesterone from *Commiphora mukul* in hyperlipidaemic rats. *Phytother. Res.* 10: 508-512.

- Chatterjee, T.K., Chakraborty, A., Pathak, M., Sengupta, G.C. (1992) Effects of plant extract *Centella asiatica* (Linn.) on cold restraint stress ulcer in rats. *Ind. J. Exp. Biol.* 30(10): 889-891.
- Chaudhary, R.D., 1996. *Herbal Drugs Industry: A practical approach to industrial Pharmacognosy*. Eastern Publishers, New Delhi. Ed 1: p. 460.
- Chaurasia, S.S., Panda, S., Kar, A. (2000) *Withania somnifera* root extract in the regulation of lead-induced oxidative damage in male mouse. *Pharmacol. Res.* 41(6): 663-666.
- Chawla, Y.K., Dubey, P., Singh, R., Nundy, S., Tandon, B.N. (1982) Treatment of dyspepsia with Amalaki (*Embllica officinalis* Linn.)- an Ayurvedic drug. *Indian J Med Res.* 76 Suppl: 95-98.
- Cheesman, K.H. (1993) Lipid peroxidation in biological systems. In: *DNA and Free Radicals*, edited by B. Halliwell, and O.I. Aruoma (Ellis Horwood, London): p. 12-17.
- Cheesman, K.H., Slater, T.F. (1993) An introduction to free radical biochemistry. *Br. Med. Bull.* 49(3): 481-493.
- Cheng, T.O. (1991) Congestive heart failure in coronary artery disease. *The Am. J. Med.* 91: 409-415.
- Cheng, C.L., Woo, M.W. (2000) Effects of *Centella asiatica* on ethanol-induced gastric mucosal lesions in rats. *Life Sci.* 67(21): 2647-2653.
- Chernysheva, G.V., Stoida, L.V., Amarantova, G.G., Kuz'mina, I.L. (1980) Effect of disseminated myocardial necrosis on ATPase activity, Ca^{2+} transport, and lipid peroxidation in cardiac mitochondrial and microsomal membranes. *Biull. Eksp. Biol. Med.* 89(5): 563-565.
- Cho, H. Ch., Ogle, C. (1992) The pharmacological differences and similarities between stress and ethanol-induced gastric mucosal damage. *Life Sci.* 51: 1833-1842.
- Cochran, R.A., Stefanko, J., Moore, C., Saik, R. (1982) Cytotoxic-free radicals in stress ulcerations. *Surg. Forum* 28: 159-161.
- Colowick, S.P., Kaplan, N.O., Packer, L. (1984) *Methods in Enzymology*. London: Academic Press: Vol. 105: p. 121-125.

-
- Daly, E.S.E (1996) Protective Effect of Cysteine and Vitamin E, Crocus Sativus and Nigella Sativa Extracts on Cisplatin-Induced Toxicity in Rats. *J. Islamic Acad. Sci.* 9(4):
 - Darnis, F., Orcel, L., de Saint-Maur, P.P., Mamou, P. (1979) Use of a titrated extract of *Centella asiatica* in chronic hepatic disorders. *Sem. Hop.* 55(37-38): 1749-1750.
 - Das, D., Banerjee, R.K. (1993) Effect of stress on the antioxidant enzymes and gastric ulceration. *Mol. Cell. Biochem.* 125: 115-125.
 - Das, D.K., Maulik, N., Moraru, II. (1995) Gene expression in acute myocardial stress. Induction by hypoxia, ischemia/reperfusion, hyperthermia and oxidative stress. *J. Mol. Cell Cardiol.* 27: 181-193.
 - Das, D.K., Maulik, N. (1995) *J. L. Lemasters, C. Oliver, ed.:* Cross talk between heat shock and oxidative stress inducible genes during myocardial adaptation to ischemia. In: *Cell Biology of Trauma* (Boca Raton, CRC Press): p.193-211.
 - Dash, B., Kashyap, P. (1980) *Materia Medica of Ayurveda*. Concept Publishing Company, New Delhi.
 - Dash, S., Tewari, N.S., Kishore, P. (1987) Clinical trial of Sutashekhar ras, Dhatri Lauha and Kama Dudha rasa in the management of Parinamasula-Duodenal ulcer (A review of 109 cases). *J. Res. Ayurvedic Sci.* 10(1-2): 41-49.
 - Davis, L., Kuttan, G. (2001) Effect of *Withania somnifera* on DMBA induced carcinogenesis. *J. Ethnopharmacol.* 75(2-3): 165-168.
 - De, B., Maiti, R.N., Joshi, V.K., Agrawal, V.K., Goel, R.K. (1997) Effect of some Sitavirya drugs on gastric secretion and ulceration. *Ind. J. Exp. Biol.* 35(10): 1084-1087.
 - Deans, S.G., Nobel, R.C., Hiltunen, R., Wuryani, W., Penzes, L.G. (1995) Antimicrobial and antioxidant properties of *Syzygium aromaticum*. *Flavour Fragr. J.* 10: 323-327.
 - Del Soldato, P., Foschi, D., Beboni, G., Scarpignato, C. (1985) Oxygen free radicals interact with indomethacin to cause gastrointestinal injury. *Agents Actions* 17: 484-488.

-
- Devi Priya, S., Shyamala Devi, C.S. (1999) Protective effect of Quercetin in cisplatin-induced cell injury in the rat kidney. *Ind. J. Pharmacol.* 31: 422-426.
 - Dhuley, J.N. (1998) Effect of ashwagandha on lipid peroxidation in stress-induced animals. *J. Ethnopharmacol.* 60(2): 173-178.
 - Dhuley, J.N. (2000) Adaptogenic and cardioprotective action of ashwagandha in rats and frogs. *J. Ethnopharmacol.* 70(1): 57-63.
 - Dhuley, J.N., Naik, S.R. (1997) Protective effect of Rhinax, a herbal formulation against CCl₄-induced liver injury and survival in rats. *J. Ethnopharmacol.* 56: 159-164.
 - Diaz, M.N., Frel, B., Vita, J.A., Keaney, J.F. (1997) Antioxidants and atherosclerotic heart diseases. *The N. Eng. J. Med.*: 408-414.
 - Dorman, H.J., Deans, S.G. (2000) Antimicrobial agents from plants: antibacterial activity of plant volatile oils. *J. Appl. Microbiol.* 88(2): 308-316.
 - Eastwood, G.I., Kirchner, J.P. (1974) Changes in the fine structure of mouse gastric epithelium produced by ethanol and urea. *Gastroenterology* 67: 71-84.
 - Edge, R., Truscott, T.G. (1997) Prooxidant and antioxidant reaction mechanisms of carotene and radical interactions with vitamins E and C. *Nutrition* 13: 992-994.
 - Egan, T.M., Minta, J.O., Scrimgeour, K.G., Cooper, J.D. (1988) Captopril--a potential free radical scavenger: inhibition of PMN NADPH oxidase. *Clin. Invest. Med.* 11(5): 351-356.
 - Esterbauer, H., Gebicki, J., Puhl, H. (1992) The role of lipid peroxidation and antioxidants in oxidative modification of LDL. *Free Radic. Biol. Med.* 13: 341-390.
 - Faizi, S., Siddiqui, B.S., Saleem, R., Siddiqui, S., Aftab, K., Gilani, A.H.
(1995) Fully acetylated carbamate and hypotensive thiocarbamate glycosides from *Moringa oleifera*. *Phytochemistry* 38(4): 957-963.
 - Ferrari, R., Ceconi, C., Curello, S., Cargnoni, A., Pasini, E., Visioli, O. (1991) The occurrence of oxidative stress during reperfusion in

experimental animals and men. *Cardiovas. Drugs. Therap.* 5: 277-288.

- Fiske, C.H., Subbarow, Y.T. (1925) Colorimetric determination of phosphorus. *J. Biol. Chem.* 66: 375-400.
- Folch, J., Lees, M., Sloane-Stanley, G.H. (1957) A simple method for the isolation and purification of total lipids from animal tissues. *J. Biol. Chem.* 226: 497-509.
- Gangan, V.D., Pradhan, P., Sipahimalani, A.T., Banerji, A. (1994) Cordifolisides A, B, C: norditerpene furan glycosides from *Tinospora cordifolia*. *Phytochemistry*. 37(3): 781-786.
- Garrido, G., Gonzalez, D., Delporte, C., Backhouse, N., Quintero, G., Nunez Selles, A.J., Morales, M.A. (2001) Analgesic and anti-inflammatory effects of *Mangifera indica* L. extract (Vimang). *Phytother. Res.* 15(1): 18-21.
- Gauthaman, K., Maulik, M., Kumari, R., Manchanda, S.C., Dinda, A.K., Maulik, S.K. (2001) Effect of chronic treatment with bark of *Terminalia arjuna*: A study on the isolated ischemic-reperfused rat heart. *J. Ethnopharmacol.* 75: 197-201.
- Geng, Z., Lau, B. (1997) Aged garlic extract modulates glutathione redox cycle and superoxide dismutase activity in vascular endothelial cells. *Phytother. Res.* 11: 54-56.
- Ghasi, S., Nwobodo, E., Ofili, J.O. (2000) Hypocholesterolemic effects of crude extract of leaf of *Moringa oleifera* Lam in high-fat diet fed wistar rats. *J. Ethnopharmacol.* 69: 21-25.
- Gheorghiu, A., Ionescu-Matiu, E. (1968) Presence of chlorogenin beside the diosgenin and gitogenin in *Tribulus terrestris* L. *Ann. Pharm. Fr.* 26(12): 745-748.
- Glavind, J., Hartmann, S., Clemmensen, J., Jessen, K.E., Dam, H. (1952) Studies on role of lipoperoxides in human pathology: Presence of peroxidised lipids in atherosclerotic aorta. *Acta. Pathol. Microbiol. Scand.* 30: 1-7.
- Goel, H.C., Prem Kumar, I., Rana, S.V. (2002) Free radical scavenging and metal chelation by *Tinospora cordifolia*, a possible role in radioprotection. *Ind. J. Exp. Biol.* 40(6): 727-734.

- Gokhale, A.B., Damre, A.S., Saraf, M.N. (2003) Investigations into the immunomodulatory activity of *Argyrea speciosa*. *J. Ethnopharmacol.* 84(1): 109-114.
- Goldstein, R.S., Mayor, G.H. (1983) The nephrotoxicity of cisplatin. *Life Sci.* 32: 685-691.
- Golikov, P.A., Polumiskov, U.V., Darydov, B.V. (1989) Lipid peroxidation and the major factor of its activation in patients with myocardial infarction. *Kardiologiia* 29: 53-58.
- Gordon, M.H. (1996) Dietary antioxidants in disease prevention. *Nat. Prod. Reports*: 265-273.
- Grisham, M.B., Hernandez, L.A., Granger, D.N. (1986) Xanthine oxidase and neutrophil infiltration in intestinal ischemia. *Am. J. Physiol.* 251: G567-G574.
- Grundy, S.M., Ahrens, E.H. Jr., Davignon, J. (1969) The interaction of cholesterol absorption and cholesterol synthesis in man. *J. Lipid Res.* 10: 304 – 315.
- Gubdjarson, S., Hallgrimson, J., Skuldottir, G. (1983) Properties of transport adenosine triphosphatases. In: H. Peters, G.A. Gresham, R. Paoetti, *Arterial Pollution*. New York: Plenum Publishing Corp: p. 101.
- Guerranti, R., Aguiyi, J.C., Errico, E., Pagani, R., Marinello, E. (2001) Effects of *Mucuna pruriens* extract on activation of prothrombin by *Echis carinatus* venom. *J. Ethnopharmacol.* 75(2-3): 175-180.
- Gujral, M.L., Sareen, K., Phukan, D.P., Amma, M.K.P. (1961) Anti-arthritic activity of glycyrrhizin in adrenalectomised rats. *Ind. J Med. Sci.* 15: 625-630.
- Guth, P.H., Paulsen, G., Nagata, H. (1984) Histologic and microcirculatory changes in alcohol-induced gastric lesions in the rat: Effect of prostaglandin cytoprotection. *Gastroenterol.* 87: 1083-1090.
- Gutteridge, J.M.C., Paterson, S.K., Segal, A.W., Halliwell, B. (1981) Inhibition of lipid peroxidation by the iron-binding protein lactoferrin. *Biochem. J.* 199: 259-261.

- Halliwell, B., Gutteridge, J.M.C. (1984) Oxygen toxicity, oxygen radicals, transition metals and disease. *Biochem. J.* 219: 1-14.
- Halliwell, B., Gutteridge, J.M.C. (1985) In: Free radicals, ageing and disease. Free radicals in Biology and Medicine. 2nd edition, Clarendon Press, Oxford: p. 279-315.
- Halliwell, B. (1987) Oxidants and human disease: some new concepts. *FASEB J.* 1: 358-364.
- Halliwell, B., (1989) Free radicals, reactive oxygen species and human disease: a critical evaluation with special reference to atherosclerosis. *Br. J. Exp. Pathol.* 70: 737-757.
- Halliwell, B., Gutteridge, J.M.C. (1989) *Free radicals in biology and medicine*. 2nd edition. Oxford: Clarendon Press: p. 112-113.
- Halliwell, B., Gutteridge, J.M.C. (1990a) Role of free radicals and catalytic metal ions in human disease: an overview. *Methods in Enzymology* 186: 1-86.
- Halliwell, B., Gutteridge, J.M.C. (1990b) The antioxidants of human extracellular fluids. *Arch. Biochem. Biophys.* 280(1): 1-8.
- Halliwell, B. (1991) Drug antioxidant effects: A basis for drug selection? *Drugs* 42(4): 569-605.
- Halliwell, B., Aruoma, O.I. (1993) *DNA and free radicals*. Ellis Horwood, London: p.124-127.
- Halliwell, B. (1994) Free radicals and antioxidants: a personal view. *Nutr. Rev.* 52(8 Pt 1): 253-265.
- Halliwell, B. (1995) Antioxidant characterization: methodology and mechanism. *Biochem. Pharmacol.* 49: 1341-1348.
- Hanigan, M.H., Gallagher, B.C., Jr Taylor, P.T., Large, M.K. (1994) Inhibition of gamma-glutamyl transpeptidase activity by acivicin *in vivo* protects the kidney from cisplatin-induced toxicity. *Cancer Res.* 54: 5925-5929.
- Hanneman, J., Baumann, K. (1991) Nephrotoxicity of cisplatin, carboplatin and transplatin. A comparative *in vitro* study. *Arch. Toxicol.* 64: 393-400.

- Haraguchi, H., Yoshida, N. (2000). Protection of mitochondrial functions against oxidative stresses by isoflavans from *Glycyrrhiza glabra*. *J. Pharm. Pharmacol.* 52(2): 219-223.
- Hatano, T., Fukuda, T., Liu, Y.Z., Noro, T., Okuda, T. (1991) Phenolic constituents of licorice. Correlation of phenolic constituents and licorice specimens from various sources and inhibitory effects of licorice extracts on xanthine oxidase and monoamine oxidase. *Yakugaku Zasshi* 111: 311-321.
- Hemnani, T., Parihar, M.S. (1998) Reactive oxygen species and oxidative DNA damage. *Ind. J. Physiol. Pharmacol.* 42(4): 440-452.
- Hennekens, C.H., Stampfer, M.J., Willett, W. (1984) Micronutrients and cancer chemoprevention. *Cancer Detect. Prev.* 7: 147-158.
- Hiraishi, H., Terano, A., Ota, S., Ivey, K.J., Sugimoto, T. (1987) Oxygen metabolite-induced cytotoxicity to cultured rat gastric mucosal cells. *Am. J. Physiol.* 253(1 Pt 1): G40-G48.
- Hjerken, S., Pan, H. (1983) Purification and characterization of two forms of a low affinity Ca^{2+} -ATPase from erythrocyte membranes. *Biochimica et Biophysica ACTA* 728: 281-288.
- Hoofnagle, J.H., Carithers, R.L. Jr., Shapiro, C., Ascher, N. (1995) Fulminant hepatic failure: summary of a workshop. *Hepatology* 21:240-252.
- Ikeda, S., Fukuzaki, A., Kaneto, H., Ishidoya, S., Orikasa, S. (1999) Role of protein kinase C in cisplatin nephrotoxicity. *Int. J. Urol.* 6(5): 245-250.
- Ikeda, T., Tsumagari, H., Nohara, T. (2000) Steroidal oligoglycosides from *Solanum nigrum*. *Chem Pharm Bull* (Tokyo) 48(7): 1062-1064.
- Iriama (1987) Uric acid in ischaemic tissues. *Jikeikai Med J* 34: 145-168.
- Ishii, Y. (1969) Critical studies of the pylorus ligated rats (Shay rat). *Jpn J. Pharmacol.* 19: 125.
- Ithayarasi, A.P., Shyamala Devi, C.S. (1997) Effect of α -tocopherol on isoproterenol-induced changes in lipid and lipoprotein profile in rats. *Ind. J. Pharmacol.* 29: 399-404.

-
- Itoh, M., Guth, O.H. (1985) Role of oxygen derived free radicals in hemorrhagic shock induced gastric lesions in the rat. *Gastroenterol.* 88: 1162-1167.
 - Jahfar, M. (2003) Glycosyl composition of polysaccharide from *Tinospora cordifolia*. *Acta Pharm.* 53(1): 65-69.
 - Jer-Min, L., Chun-Ching, L., Ming-Feng, C., Takashi, U., Atsushi, T. (1995) Radical scavenger and antihepatotoxic activity of *Ganoderma formosanum*, *Ganoderma lucidum* and *Ganoderma neo-japonicum*. *J. Ethnopharmacol.* 47: 33-41.
 - Jose, J.K., Kuttan, R. (2000) Hepatoprotective activity of *Embllica officinalis* and Chyavanaprash. *J. Ethnopharmacol.* 72(1-2): 135-140.
 - Kamat, J.P., Bloor, K.K., Devasagayam, T.P., Venkatachalam, S.R. (2000) Antioxidant properties of *Asparagus racemosus* against damage induced by gamma-radiation in rat liver mitochondria. *J. Ethnopharmacol.* 71: 425-435.
 - Kapil, A., Sharma, S. (1997) Immunopotentiating compounds from *Tinospora cordifolia*. *J. Ethnopharmacol.* 58(2): 89-95.
 - Kardinaal, A.F.M., Kok, F.J., Ringstad, J. (1993) Antioxidants in adipose tissue and risk of myocardial infarction: the Euramic study. *Lancet* 342: 1379-1384.
 - Kaul, S., Kapoor, N.K. (1991) Sarcolemma membrane changes in myocardial necrosis induced by isoproterenol and salvage by drugs. In, *Biomembranes in Health and Disease*, Vol. 2, ed. By A.M. Kidwai, R.K. Upreti, P.K. Ray. Today and Tomorrow's Printers and Publishers, New Delhi: p. 439-444.
 - Khuroo, M.S., Khuroo, N. (1997) Hepatitis E: global epidemiology with special reference to impact of the disease in India and the South East of Asia. In: Rizzetto M, Purcell RH, Gerin JL, Verme G, editors. *Viral hepatitis and liver disease*. Turin: Edizioni Minerva Medica: 601-608.
 - Kidd, P.M. (1997) Glutathione: Systemic protection against oxidative and free radical damage. *Altern. Med. Rev.* 2:155-176.
 - Kilgore, K.S., Tanhehco, E.J., Park, J.L., Naylor, K.B., Anderson, M.B., Lucchesi, B.R. (1998) Reduction of myocardial infarct size in

- vivo* by carbohydrate-based glycomimetics. *Pharmacol. Exp. Ther.* 284(1): 427-435.
- Kim, Y.K., Jung, J.S., Lee, S.H., Kim, Y.W. (1997) Effects of antioxidants and calcium in cisplatin induced renal injury in rabbit renal cortical slices. *Toxicol. Appl. Pharmacol.* 146: 261-269.
 - Kim, H.M., Lee, E.H., Hong, S.H., Song, H.J., Shin, M.K., Kim, S.H., Shin, T.Y. (1998) Effect of *Syzygium aromaticum* extract on immediate hypersensitivity in rats. *J. Ethnopharmacol.* 60(2): 125-131.
 - Kintzel, P.E. (2001) Anticancer drug-induced kidney disorders. *Drug Saf* 24(1): 19-38.
 - Ko, K.M., Yick, P.K., Chiu, T.W., Hui, T.Y., Cheng, C.H.K., Kong, Y.C. (1993) Impaired hepatic antioxidant status in carbon tetrachloride intoxicated rats: an *in vivo* model for screening herbal extracts with antioxidant activities. *Fitoterapia*, LXIV, No.6: 539-544.
 - Koul, I.B., Kapil, A. (1993) Evaluation of the liver protective potential of piperine, an active principle of black and long peppers. *Planta Medica* 59(5): 413-417.
 - Lacy, E.R., Ito, S. (1984) Rapid epithelial restitution of the rat gastric mucosa after ethanol injury. *Lab. Invest.* 51: 573-583.
 - Laine, L., Weinstein, W.M. (1988) Histology of alcoholic hemorrhage "gastritis": A prospective evaluation. *Gastroenterol.* 94: 1254-1262.
 - Laks, M.M. (1991) Functional status of the sympathetic nervous system in cardiovascular disease—the role of norepinephrine in the production of physiologic and pathologica hypertrophy. In: Ganguly, P.K., ed. *Catecholamines and heart disease*. Boca Raton, Florida: CRC Press: p. 103-22.
 - Latha, U., Rajesh, M.G., Latha, M.S. (1999) Hepatoprotective effect of an ayurvedic medicine. *Indian Drugs* 36: 470-473.
 - Lawson, C.S., Coltart, D.J., Hearse, D.J. (1993) The antiarrhythmic action of ischemic preconditioning in rat hearts does not involve functional Gi proeins. *Cardiovas. Res.* 27: 681-687.

- Lee, K.G., Shibamoto, T. (2001) Inhibition of malondialdehyde formation from blood plasma oxidation by aroma extracts and aroma components isolated from clove and eucalyptus. *Food Chem. Toxicol.* 39(12): 1199-1204.
- Lee, W.M. (1994) Acute liver failure. *Am. J. Med.* 96(Suppl A): 3-9.
- Lees, A.M., Mok, H.Y.L., Lees, R.S., McCluskey, M.A., Grundy, S.M. (1977) Plant sterol as cholesterol lowering agents: Clinical trials in patients with hypercholesterolemia and studies of sterol balance. *Atherosclerosis* 28: 325 – 338.
- Levi, J., Jacobs, C., Kalman, S., Mc Tighe, M., Weinder, M.W. (1980) Mechanism of cis-platinum nephrotoxicity. I. Effect on SH groups in rat kidney. *J. Pharmacol. Exp. Ther.* 213: 545-550.
- Li, G.C., Vasquez, B.S., Gallagher, K.P., Lucchesi, B.R. (1990) Myocardial protection with preconditioning. *Circulation* 82: 609-619.
- Li, J.X., Shi, Q., Xiong, Q.B., Prasain, J.K., Tezuka, Y., Wang, Z.T., Tanaka, K., Namba, T., Kadota, S. (1998) Tribulusamide A and B, new hepatoprotective lignanamides from the fruits of *Tribulus terrestris*: indications of cytoprotective activity in murine hepatocyte culture. *Planta Medica* 64(7): 628-631.
- Liebert, M.A. (1995) An alternative medicine treatment for Parkinson's disease: results of a multicenter clinical trial. HP-200 in parkinson's disease. study group. *J. Altern. Complement. Med.* 1(3): 249-255.
- López-Novoa, J.M., Rengel, M.A., Rodicio, J.L., Hernando, L. (1977) A micropuncture study of salt and water retention in chronic experimental cirrhosis. *Am. J. Physiol.* 232: F315-F318.
- Loquerico, C., Taranto, D., Seneduce, F., Vecctis Blanco, Vincentis A de. (1993) Glutathione prevents ethanol induced gastric mucosal damage and depletion of sulphhydryl compounds in humans. *Gut* 34: 161-165.
- Lowry, O.H., Rosenbrough, N.J., Farr, A.C., Randell, R.J. (1975) Protein measurement with folin-phenol reagent. *J. Biol. Chem.* 193: 265-275.

- Malhotra, C.L., Prasad, K., Dhalla, N.S., Das, P.K. (1961) Effect of hersaponin and acorus oil on noradrenaline and 5-hydroxytryptamine content of rat brain. *J. Pharm. Pharmacol.* 13: 447-448.
- Manjula, T.S., Devi, C.S. (1993) Effect of aspirin on mitochondrial lipids in experimental myocardial infarction in rats. *Biochem. Mol. Biol. Int.* 29(5): 921-928.
- Manjula, T.S., Deepa, R., Shyamala Devi, C.S. (1994) Effect of aspirin on lipid peroxidation in experimental myocardial infarction in rats. *J. Nutr. Biochem.* 5: 95-99.
- Manonmani, S., Vishwanathan, V.P., Subramanian, S., Govindasamy, S. (1995) Biochemical studies on the antiulcerogenic activity of cauvery 100, an ayurvedic formulation in experimental ulcers. *Ind. J. Pharmacol.* 27: 101-105.
- Manson, J.E., Stampfer, M.J., Willett, W.C. (1991) A prospective study of the intake of antioxidant vitamins and incidence of coronary heart disease in women. *Circulation* 64: 2168-2173.
- Marini-Bettolo, G.B. (1980) Present aspects of the use of medicinal plants in traditional medicine. *J. Ethnopharmacol.* 2: 5-7.
- Marklund, S.L. (1990) Expression of extracellular superoxide dismutase by human cell lines. *Biochem. J.* 266: 213-219.
- Martinez Sanchez, G., Candelario-Jalil, E., Giuliani, A., Leon, O.S., Sam, S., Delgado, R., Nunez Selles, A.J. (2001) *Mangifera indica* L. extract (QF808) reduced ischemia-induced neuronal loss and oxidative damage in the gerbil brain. *Free Radic. Res.* 35(5): 465-473.
- Martinez, G., Giuliani, A., Leon, O.S., Perez, G., Nunez Selles, A.J. (2001) Effect of *Mangifera indica* L. extract (QF808) on protein and hepatic microsome peroxidation. *Phytother. Res.* 15(7): 581-585.
- Mary, N.K., Shylesh, B.S., Babu, B.H., Padikkala, J. (2002) Antioxidant and hypolipidaemic activity of a herbal formulation-Liposem. *Ind. J. Exp. Biol.* 40: 901-904.
- Mathew, S., Kuttan, G. (1997) Antioxidant activity of *Tinospora cordifolia* and its usefulness in the amelioration of

- cyclophosphamide induced toxicity. *J. Exp. Clin. Cancer Res.* 16: 407-411.
- Maulik, N., Watanabe, M., Engelman, D.T., Engelman, R.M., Kagan, V.E., Kisin, E., Tyurin, V., Cordis, G.A., Das, D.K. (1995a) Myocardial adaptation to ischemia by oxidative stress induced by endotoxin. *Am. J. Physiol.* 38: C907-C916.
 - Maxwell, S.R.J. (1995) Prospects for the use of antioxidant therapies. *Drugs* 49(3): 345-361.
 - McCord, J.M. (1985) Oxygen-derived free radicals in postischemic tissue injury. *N. Engl. J. Med.* 312(3): 159-163.
 - Mengi, S. (2003) Experimental evaluation of herbal drugs for hyperlipidaemia. *Ind J Nat. Prod.* 19(1): 49-58.
 - Milei, J., Nunez, R.G., Rapaport, M. (1978) Pathogenesis of isoproterenol-induced myocardial lesions: its relation to human 'coagulative myocytolysis'. *Cardiology* 63(3): 139-151.
 - Miller, G.J. (1995) Lipoproteins and thrombosis, effects of lipid lowering. *Curr. Opin. Lipidol.* 6: 38-42.
 - Mishra, H.P., Fridovich, I. (1972) The role of superoxide anion in the auto-oxidation of epinephrine and a simple assay for superoxide dismutase. *J. Biol. Chem.* 247: 3170-3175.
 - Mishra, L.C., Singh, B.B., Dagenais, S. (2000) Scientific basis for the therapeutic use of *Withania somnifera* (ashwagandha): a review. *Altern. Med. Rev.* 5(4): 334-346.
 - Mitchinson, M.J., Ball, R.Y. (1987) Macrophages and atherogenesis. *Lancet* 2: 146-148.
 - Mitra, A., Chakraborty, S., Auddy, B., Tripathi, P., Sen, S., Saha, A.V., Mukherjee, B. (2002) Evaluation of chemical constituents and free radical scavenging activity of Swarnabhasma (gold ash), an ayurvedic drug. *J. Ethnopharmacol.* 80: 147-153.
 - Mitra, S.K., Venkataranganna, M.V., Sundaram, R., Gopumadhavan, S. (1999) Antioxidant activity of AO-8, a herbal formulation, in *in vitro* and *in vivo* experimental models. *Phytother. Res.* 13: 300-306.

- Mitra, S.K., Seshadri, S.J., Venkataranganna, M.V., Gopumadhavan, S., Venkatesh Udupa, U., Sarma, D.N.K. (2000) Effect of HD-03-a herbal formulation in galactosamine-induced hepatopathy in rats. *Ind. J. Physiol. Pharmacol.* 44: 82-86.
- Mizui, T., Sato, H., Hirose, F., Doteuchi, M. (1987) Effect of antiperoxidative drugs on gastric damage induced by ethanol in rats. *Life Sci.* 41: 755-763.
- Moldeus, P., Cotgreave, I.A. (1994) *Methods Enzymology* 234: 482-486.
- Moncada, S., Higgs, A. (1993) The L-arginine-nitric oxide pathway. *N. Engl. J. Med.* 329(27): 2002-2012.
- Moron, M.S., Depierre, J.W., Mannervik, B. (1979) Levels of glutathione, glutathione reductase and glutathione S-transferase activities in rat lung and liver. *Biochimica et Biophysica ACTA* 582: 67-78.
- Mutoh, H., Hiraishi, H., Ota, S., Yoshida, H., Ivey, K., Terano, A., Sugimoto, T. (1990) Protective role of intracellular glutathione against ethanol-induced damage in cultured rat gastric mucosal cells. *Gastroenterol.* 98: 1452-1459.
- Nagy, L., Moszsik, G.Y., Tarnok, F., Szalai, M., Poth, I., Javor, T. (1968) Inter-relationships between the gastric secretory responses, prostaglandin E inhibition and serum level of immunoreactive gastrin in pylorus-ligated and antrectomized rats. *Pharmacol.* 16: 135-141.
- Nair, S.C., Salomi, M.J., Panikkar, B., Panikkar, K.R. (1991) Modulatory effects of *Crocus sativus* and *Nigella sativa* extracts on cisplatin-induced toxicity in mice. *J. Ethnopharmacol.* 31: 75-83.
- Naziroglu, M., Cay, M., Ustundag, B., Aksakal, M., Yekeller, H. (1999) Protective effects of vitamin E on carbon tetrachloride-induced liver damage in rats. *Cell Biochemistry and Function* 17: 253-259.
- Nirmala, C., Puvanakrishnan, R. (1996) Protective role of curcumin against isoproterenol induced myocardial infarction in rats. *Mol. Cell. Biochem.* 159: 85-93.

- Noronha-Dutra, A.A., Steen, E.M., Woolf, N. (1984) The correlation between catecholamine and lipid peroxidation induced in heart cells. *Basic Res. Cardiol.* 80: 133-136.
- Oates, P.J., Hakkinen, J.P. (1988) Studies on the mechanism of ethanol-induced gastric damage in rats. *Gastroenterology* 94: 10-21.
- Ogino, T., Inoque, M., Ando, Y., Awai, M., Maeda, H., Morino, Y. (1988) Chemical modification of superoxide dismutase. Extension of plasma half-life of the enzyme through its reversible binding to the circulating albumin. *Int. J. Peptide Protein Res.* 32(2): 153-159.
- O'Grady, J.G., Portmann, B., Williams, R. (1993) Fulminant hepatic failure. In: Schiff L, Schiff ER, editors. *Diseases of the liver*. Philadelphia: Lippincott Company: 1077-1090.
- Ohinishi, T., Suzuki, T., Suzuki, Y., Ozawa, K. (1982) A comparative study of plasma membrane Mg^{2+} ATPase activities in normal, regenerating and malignant cells. *Biochimica et Biophysica ACTA* 684: 67-74.
- Oner, G., Izgut-Uysal, V.N., Senturk, U.K. (1994) Role of lipid peroxidation in cadmium-induced impairment of the gastric mucosal barrier. *Food Chem Toxicol.* 32(9): 799-804.
- Ozer, N.K., Palozza, P., Boscoboinik, D., Azzi, A. (1993) D- α -Tocopherol inhibits low-density lipoprotein induced proliferation and protein kinase C activity in vascular smooth muscle cells. *FEBS Lett.* 322: 307-310.
- Pandit, S., Sur, T.K., Jana, U., Bhattacharya, D., Debnath, P.K. (2000) Anti-ulcer effect of Shankh bhasma in rats: A preliminary study. *Ind. J. Pharmacol.* 32: 378-380.
- Pant, M.C., et al. (1968) Blood sugar and total cholesterol lowering effect of glycine soya (Sieb and Zucc.), *Mucuna pruriens* (D.C.) and *Dolichos biflorus* (Linn.) seed diets in normal fasting albino rats. *Ind. J. Med. Res.* 56(12): 1808-1812.
- Paris, R., Guillot, M. (1955) Liquiritoside, flavonoside from root of licorice, *Glycyrrhiza glabra* L.] *Ann Pharm Fr.* 13(9-10): 592-595.
- Patel, A.B., Kanitkar, U.K. (1969) *Asparagus racemosus* willd--form bordi, as a galactagogue, in buffaloes. *Indian Vet J.* 46(8): 718-721.

-
- Pérez-Tamayo, R. (1983) Is cirrhosis of the liver experimentally produced by CCl₄ an adequate model of human cirrhosis? *Hepatology* 3: 112-120.
 - Pery, M.A., Wadhwa, S., Parks, D.A., Pickard, W., Granger, D.N. (1986) Role of oxygen radicals in ischemia-induced lesions in the cat stomach. *Gastroenterol.* 90: 362-367.
 - Peskar, B.M., Lange, K., Hoppe, U., Peskar, B.A. (1986) Ethanol stimulates formation of leukotiene C₄ in rat gastric mucosa *Prostaglandins* 31: 283-293.
 - Pihan, G., Regillo, C., Szabo, S. (1987) Free radicals and lipid peroxidation in ethanol- or aspirin-induced gastric mucosal injury. *Dig. Dis. Sci.* 32: 1395-1401.
 - Pillai, C.K., Pillai, K.S. (2002) Antioxidants in health. *Ind. J. Physiol. Pharmacol.* 46(1): 1-5.
 - Piper, D.W., Stiel D.D. (1986) Pathogenesis of chronic peptic ulcer, current thinking and clinical implications. *Med. Prog.* 2: 7-10.
 - Plaa, G.L. (1991) Toxic responses of the liver. In: Amdur, M.O., Doull, J., Klaassen, C.D. (Eds.), *Cassereit and Doull's Toxicology*. Pergamon Press, New York.
 - Poli, G., Albano, E., Dianzani, M.U. (1987) The role of lipid peroxidation in liver damage. *Chem. Phys. Lipids* 45: 117-142.
 - Rajeshkumar, N.V., Therese, M., Kuttan, R. (2001) *Emblica officinalis* fruits afford protection against experimental gastric ulcers in rats. *Pharmaceutical Biol.* 39(5): 375-380.
 - Raju, K., Anbuganapathi, G., Gokulakrishnan, V., Rajkapoor, B., Jayakar, B., Manian, S. (2003) Effect of dried fruits of *Solanum nigrum* Linn against CCl₄-induced hepatic damage in rats. *Biol. Pharm. Bull.* 26(11): 1618-1619.
 - Rao, C.V., Sairam, K., Goel, R.K. (2000) Experimental evaluation of *Bacopa monniera* on rat gastric ulceration and secretion. *Ind. J Physiol. Pharmacol.* 44(4): 435-441.
 - Rao, M., Rao, M.N.A. (1998) Protective effects of Cystone, a polyherbal ayurvedic preparation, on cisplatin-induced renal toxicity in rats. *J. Ethnopharmacol.* 62: 1-6.

- Rao, R.R. (1973) Mechanism of drug induced hepatotoxicity. *Ind. J. Pharmacol.* 5: 313-318.
- Rastogi, L., Patnaik, G.K., Dikshit, M. (1998) Free radicals and antioxidant status following pylorus ligation induced gastric mucosal injury in rats. *Pharmacol. Res.* 38: 125- 132.
- Rates, S.M.K. (2001) Plants as source of drugs. *Toxicon* 39: 603-613.
- Rath, S.S., et al. (2002) The effect of *Momordica charantia* and *Mucuna pruriens* in experimental diabetes and their effect on key metabolic enzymes involved in carbohydrate metabolism. *Phytother. Res.* 16(3): 236-243.
- Reaven, P.D., Khouw, A., Beltz, W.F. (1993) Effect of dietary antioxidant combinations in humans: protection of LDL by vitamin E but not by beta-carotene. *Arterioscler. Thromb.* 13: 590-600.
- Recknagel, R.O., Glende, E.A., Ugazio, G., Koch, R.R., Srinivasan, S. (1974) New data in support of the lipoperoxidation theory for carbon tetrachloride liver injury. *Israel J. Med. Sci.* 10(4): 301-311.
- Rege, N.N., Thatte, U.M., Dahanukar, S.A. (1999) Adaptogenic properties of six rasayana herbs used in Ayurvedic medicine. *Phytother Res.* 13(4): 275-291.
- Regnstrom, J., Nilsson, J., Tornvall, P. (1992) Susceptibility to low-density lipoprotein oxidation and coronary atherosclerosis in man. *Lancet* 339: 1183-1186.
- Remmer, H.I. (1970) The role of liver in drug metabolism. *Am. J. Med.* 49: 617-623.
- Repetto, M.G., Llesuy, S.F. (2002) Antioxidant properties of natural compounds used in popular medicine for gastric ulcers. *Braz. J. Med. Biol. Res.* 35: 523-534.
- Ries, F., Klastersky, J. (1986) Nephrotoxicity induced by cancer chemotherapy with special emphasis on cisplatin toxicity. *Am. J. Kidney Dis.* 8(5): 368-379.
- Riley, J.C.M., Behrman, H.R. (1991) Oxygen radicals and reactive oxygen species in reproduction. *Proc. Soc. Exp. Bio. Med.* 198(3): 781-791.

- Russo, A., Izzo, A.A., Cardile, V., Borrelli, F., Vanella, A. (2001) Indian medicinal plants as antiradicals and DNA cleavage protectors. *Phytomedicine* 8(2): 125-132.
- Russo, A., Longo, R., Vanella, A. (2002) Antioxidant activity of propolis: role of caffeic acid phenethyl ester and galangin. *Fitoterapia* 73(1): S21-S29.
- Ryan, T.P., Aust, S.D. (1992) The role of iron in oxygen-mediated toxicities. *Crit. Rev. Toxicol.* 22(2): 119-141.
- Sabnis, P.B., Gaitonde, B.B., Jetmalani, M. (1968) Effects of alcoholic extracts of *Asparagus racemosus* on mammary glands of rats. *Indian J Exp Biol.* 6(1): 55-57.
- Sairam, K., Rao, C.V., Goel, R.K. (2001) Effect of *Centella asiatica* Linn. On physical and chemical factors induced gastric ulceration and secretion in rats. *Ind. J. Exp. Biol.* 39(2): 137-142.
- Sairam, K., Rao, Ch.V., Babu, M.D., Kumar, K.V., Agrawal, V.K., Goel, R.K. (2002) Antiulcerogenic effect of methanolic extract of *Emblca officinalis*: an experimental study. *J. Ethnopharmacol.* 82(1): 1-9.
- Sairam, K., Priyambada, S., Aryya, N.C., Goel, R.K. (2003) Gastroduodenal ulcer protective activity of *Asparagus racemosus*: an experimental, biochemical and histological study. *J. Ethnopharmacol.* 86(1): 1-10.
- Salim, A.S. (1992) Use of scavenging oxygen derived free radicals to protect the rat against aspirin and ethanol-induced erosive gastritis. *J. Pharm. Sci.* 81: 943-948.
- Sanchez, G.M., Re, L., Giuliani, A., Nunez-Selles, A.J., Davison, G.P., Leon-Fernandez, O.S. (2000) Protective effects of *Mangifera indica* L. extract, mangiferin and selected antioxidants against TPA-induced biomolecules oxidation and peritoneal macrophage activation in mice. *Pharmacol. Res.* 42(6): 565-573.
- Sarwat, S., Perwaiz, S., Iqbal, M., Athar, M. (1995) Crude extracts of hepatoprotective plants, *Solanum nigrum* and *Cichorium intybus* inhibit free radical-mediated DNA damage. *J Ethnopharmacol.* 45(3): 189-192.

- Scartezzini, P., Speroni, E. (2000) Review on some plants of Indian traditional medicine with antioxidant activity. *J. Ethnopharmacol.* 71: 23-43.
- Schaefer, J., Peters, T., Nierhaus, K.H., Schaefer, T., Lohff, B., Vos, R. (1998) Mechanisms of autoprotection and the role of stress-proteins in natural defenses, autoprotection, and salutogenesis. *Medical Hypothesis* 51: 153-163.
- Scholes, R.G. (1983) Radiation effects on DNA. *Br. J. Radiol.* 56: 221-231.
- Scott Luper, N.D. (1998) A Review of Plants Used in the Treatment of Liver Disease: Part 1. *Altern. Med. Rev.* 3(6): 410-421.
- Sdzuka, Y., Shoji, T., Takino, Y. (1992) Effect of cisplatin on the activities of enzymes which protect against lipid peroxidation. *Biochem. Pharmacol.* 43: 1872-1875.
- Seitz, H.K., Meydani, M., Ferschke, I., Simanowski, U.A., Boesche, J., Bogusz, M., Hoepker, W.W., Blumberg, J.B., Russell, R.M. (1989) Effect of aging on *in vivo* and *in vitro* ethanol metabolism and its toxicity in F344 rats. *Gastroenterol.* 97: 446-456.
- Seneviratne, C.K., Li, T., Khaper, N., Singal, P.K. (1999) Effects of methionine on endogenous antioxidants in the heart. *Am. J. Physiol.* 277: H2124-H2128.
- Sevenian, A., Hochstein, P. (1985) Mechanisms and consequences of lipid peroxidation in biological systems. *Annu. Rev. Nutr.* 5: 365-375.
- Shah, Z.A., Vohora, S.B. (2002) Antioxidant/restorative effects of calcined gold preparations used in Indian systems of medicine against global and focal models of ischaemia. *Pharmacol. Toxicol.* 90(5): 254-259.
- Shay, H., Komarov, S.A., Fels, S.E., Meraze, D., Gruenstein, M., Siplet, H. (1945) A simple method for the uniform production of gastric ulceration in rat. *Gastroenterol.* 5: 43-61.
- Sheela, S.C., Shyamala Devi, C.S. (2000) Effect of Abana, an ayurvedic formulation, on lipid peroxidation in experimental myocardial infarction in rats. *Ind. J. Expt. Biol.* 38: 827-833.

- Sheweita, S.A., El-Gabar, M.A., Bastawy, M. (2001) Carbon tetrachloride changes the activity of cytochrome P450 system in the liver of male rats: role of antioxidants. *Toxicology* 169(2):83-92
- Shukla, A., Rasik, A.M., Dhawan, B.N. (1999) Asiaticoside-induced elevation of antioxidant levels in healing wounds. *Phytother. Res.* 13(1): 50-54.
- Shukla, S., Mathur, R., Prakash, A.O. (1988a) Biochemical and physiological alterations in female reproductive organs of cyclic rats treated with aqueous extract of *Moringa oleifera* Lam. *Acta Eur Fertil.* 19(4): 225-232.
- Shukla, S., Mathur, R., Prakash, A.O. (1988b) Antifertility profile of the aqueous extract of *Moringa oleifera* roots. *J. Ethnopharmacol.* 22(1): 51-62.
- Sies, H. (1986) Biochemistry of oxidative stress. *Angew Chem. Int. Ed. Engl.* 25: 1058-1071.
- Sies, H. (1991) Oxidative stress: from basic research to clinical application. *Am. J. Med.* 30; 91(3C): 31S-38S.
- Singh, B., Saxena, A.K., Chandan, B.K., Anand, K.K., Suri, O.P., Suri, K.A., Satti, N.K. (1998) Hepatoprotective activity of verbenalin on experimental liver damage in rodents. *Fitoterapia* 69: 135-140.
- Singh, H.K., Dhawan, B.N. (1982) Effect of *Bacopa monniera* Linn. (brahmi) extract on avoidance responses in rat. *J. Ethnopharmacol.* 5(2). 205-214.
- Singh, P., Bhargava, V.K., Garg, S.K. (2002) Effect of melatonin and β -carotene on indomethacin induced gastric mucosal injury. *Ind. J. Physiol. Pharmacol.* 46(2): 229-234.
- Slater, T.F., Sawyer, B.C. (1971) The stimulatory effects of carbon tetrachloride and other halogenoalkanes on peroxidative reactions in rat liver fractions *in vitro*. *Biochem. J.* 123: 805-814.
- Slater, T.F. (1972) *Free radical mechanisms in tissue injury*. Pion Press Ltd., London: p. 17-20.
- Smith, L.L. (1987) Cholesterol autoxidation 1981-1986. *Chem. Phys. Lipids* 44: 87-100.

- Sorenson, J.R.J. (1984) Bis (3,5-diisopropylsalicylato)copper(II), a potent radioprotectant with superoxide dismutase mimetic activity. *J. Med. Chem.* 27(12): 1747-1749.
- Srivastava, K.C. (1993) Antiplatelet principles from a food spice clove (*Syzygium aromaticum* L). *Prostaglandins Leukot. Essent. Fatty Acids* 48(5): 363-372.
- Stanely Mainzen Prince, P., Menon, V.P., Gunasekaran, G. (1998) Evaluation of the antineoplastic activity of guduchi (*Tinospora cordifolia*) in cultured HeLa cells. *Cancer Lett.* 127(1-2): 71-82.
- Stanely Mainzen Prince, P., Menon, V.P. (2001) Antioxidant action of *Tinospora cordifolia* root extract in alloxan diabetic rats. *Phytother Res.* 15(3): 213-218.
- Steinbeck, M.J., Khan, A.U., Karnovsky, M.J. (1993) Extracellular production of singlet oxygen by stimulated macrophages quantified using 9,10-diphenylanthracene and perylene in a polystyrene film. *J. Biol. Chem.* 268: 15649-15654.
- Steinberg, D., Parsatharathy, S., Carew, T.E. (1989) Beyond cholesterol: modifications of low-density lipoprotein that increase its atherogenicity. *N. Engl. J. Med.* 320: 915-924.
- Stephens, N.A., Parsons, A., Schofield, P.M. (1996) Randomized control of vitamin E in patients with coronary artery disease- Cambridge heart antioxidant study (CHAOS). *Lancet* 347: 781-786.
- Striker, G., Smuckler, E., Kohnen, P., Nagel, R. (1968) Structural and functional changes in rat kidney during CCl₄-intoxication. *Am. J. Pathol.* 53: 769-789.
- Subramanian, M., Chintalwar, G.J., Chattopadhyay, S. (2002) Antioxidant properties of a *Tinospora cordifolia* polysaccharide against iron-mediated lipid damage and gamma-ray induced protein damage. *Redox Rep.* 7(3): 137-143.
- Sun, J.Z., Tang, X.L., Park, S.W., Qin, Y., Turrent, J.F., Bolli, R. (1996) Evidence for an essential role of reactive oxygen species in the genesis of late preconditioning against myocardial stunning in conscious pig. *J. Clin. Invest.* 97: 562-576.

- Sushmakumari, S., Jayadeep, A., Suresh Kumar, J.S., Menon, P.V.G. (1989) Effect of carnitine on malondialdehyde, taurine and glutathione levels in hearts of rats subjected to myocardial stress by isoproterenol. *Ind. J. Exp. Biol.* 27: 134-137.
- Suzuki, Y., Hayashi, M., Ito, M., Yamagami, I. (1976) Anti -ulcer effects of 4'- (2-carboxyethyl) phenyl trans- 4- aminomethyl cyclohexane carboxylate hydrochloride (Cetraxate) on various experimental gastric ulcers in rats. *Jpn. J. Pharmacol.* 26: 471- 480.
- Szabo, S. (1987) Mechanisms of mucosal injury in the stomach and duodenum: time-sequence analysis of morphologic, functional, biochemical and histochemical studies. *Scand. J.Gastroenterol.* 22 (Suppl. 127): 21-28.
- Szeleghi, I., Brune, K. (1988) Possible role of oxygen free radicals in ethanol induced gastric mucosal damage in rats. *Dig. Dis. Sci.* 33: 865-871.
- Takase, H., Yamamoto, K., Hirano, H., Saito, Y., Yamashita, A. (1994) Pharmacological profile of gastric mucosal protection by marmin and nobiletin from a traditional herbal medicine, *Aurantii Fructus Immaturus*. *Jpn. J. Pharmacol.* 66: 139-147.
- Tappel, A.L. (1973) Lipid peroxidation and damage to cell components. *Fed. Proceedings* 32: 1870-1875.
- Tariq, M., Hussain, S.J., Asif, M., Jahan, M. (1977) Protective effect of fruit extracts of *Emblica officinalis* (Gaertn). & *Terminalia belerica* (Roxb.) in experimental myocardial necrosis in rats. *Ind. J. Exp. Biol.* 15(6): 485-486.
- Tatu, A.M., Pekkapurka, M.D., Helena, G., Hammu, V., Erkki V. (1995) Reduction of serum cholesterol with sitostanol - ester margarine in a mildly hypercholesterolemic population. *The New Eng. J. Med.* 16: 1308 - 1312.
- Tepperman, B.L., Soper, B.D. (1990) Effect of sialoadenoectomy on ethanol-induced gastric mucosal damage in rat: role of neutrophils. *Can. J. Physiol. Pharmacol.* 68: 207-210.

- Terano, A., Hiraishi, H., Ota, S., Shiga, J., Sugimoto, T. (1986) Role of oxygen free radicals in ethanol induced gastric ulcer in rat stomach. *Gastroenterol.* 90: 1661-1665.
- Thakur, C.P. (1985) *Emblica officinalis* reduces serum, aortic and hepatic cholesterol in rabbits. *Experientia* 41(3): 423-424.
- Tikekar, P., Chakrabarti, C.H. (1973) Cholesterol feeding decreases the liver and plasma reduced glutathione levels. *Ind. J. Nutr. Diet* 10: 182-187.
- Tomowa, M.P., Botschewa, D.M., Zaikin, W.G., Wulfson, N.S. (1977) Steroid saponines and sapogenines. V. Hecogenin from *Tribulus terrestris* L. *Planta Med.* 32(3): 223-224.
- Tosaki, A., Cordis, G.A., Szerdahelyi, P., Engelman, R.M., Das, D.K. (1997) Effect of protein kinase C in ischemic/ reperfusion preconditioning isolated rat hearts. *Am. J. Physiol.* 273: H1860 H1866.
- Treskes, M., Boven, E., Holwerda, U., Pinedo, H.M., Van Der Vijgh, W.J. (1992) Time dependence of the selective modulation of cisplatin-induced nephrotoxicity by WR 2721 in the mouse. *Cancer Res.* 52: 2257-2260.
- Tripathi, Y.B., Chaurasia, S., Tripathi, E., Upadhyay, A., Dubey, G.P. (1996) *Bacopa monniera* Linn. as an antioxidant: mechanism of action. *Ind. J. Exp. Biol.* 34: 520-526.
- Tripathi, Y.B., Chaurasia, S. (2000) Interaction of *Strychnos nux-vomica*-products and iron: with reference to lipid peroxidation. *Phytomedicine* 7(6): 523-528.
- Tripathi, Y.B., Upadhyay, A.K. (2002) Effect of the alcohol extract of the seeds of *Mucuna pruriens* on free radicals and oxidative stress in albino rats. *Phytother. Res.* 16: 534-538.
- Tsai, A.C. (1975) Lipid peroxidation and glutathione peroxidase activity in the liver of cholesterol fed rats. *J. Nutr.* 105: 946-951.
- Ursini, F., Maiorino, M., Hochstein, P., Ernster, L. (1989) Microsomal lipid peroxidation: mechanisms of initiation. The role of iron and iron chelators. *Free Radic. Biol. Med.* 6(1): 31-36.

- Vaidya, A.B., Rajagopalan, T.G., Mankodi, N.A., Antarkar, D.S., Tathed, P.S., Purohit, A.V., Wadia, N.H. (1978) Treatment of Parkinson's disease with the cowhage plant-*Mucuna pruriens* Bak. *Neurol India* 26(4): 171-176.
- Vani, T., Rajani, M., Sarkar, S., Shishoo, C.J. (1997) Antioxidant properties of the Ayurvedic formulation Triphala and its constituents. *Int. J. Pharmacog.* 35(5): 313-317.
- Vaya, J., Belinky, P. A. (1997) Antioxidant constituents from licorice roots: Isolation, structure elucidation and antioxidative capacity toward LDL oxidation. *Free Radic. Biol. Med.* 23(2): 302-313.
- Vayalil, P.K., Kuttan, G., Kuttan, R. (2002) Rasayanas: evidence for the concept of prevention of diseases. *Am. J. Clin. Med.* 30(1): 155-171.
- VeerendraKumar, M.H., Gupta, Y.K. (2002) Effect of different extracts of *Centella asiatica* on cognition and markers of oxidative stress in rats. *J. Ethnopharmacol.* 79: 253-260.
- Venkateswaran, S., Pari, L., Viswanathan, P., Menon, V.P. (1997) Protective effect of Livex, a herbal formulation against erythromycin estolate-induced hepatotoxicity in rats. *J. Ethnopharmacol.* 57: 161-167.
- Venukumar, M.R., Latha, M.S. (2002) Antioxidant effect of *Coscinium fenestratum* in carbon tetrachloride treated rats. *Ind. J. Pharmacol.* 46(2): 223-228.
- Visweswaran, P., Massin, E.K., Dubose, T.D. (1997) Mannitol-induced acute renal failure. *J. Am. Soc. Nephrol.* 8: 1028-1033.
- Von Sonntag, C. (1987) *The chemical basis of radiation biology*. Taylor and Francis, London: p. 3-6.
- Wadhwa, S.S., Perry, M.A. (1987) Gastric injury induced by hemorrhage, local ischemia, and oxygen radical generation. *Am. J. Physiol.* 253(2 Pt 1): G129-G133.
- Wang, G.S., Han, Z.W. (1993) The protective action of glycyrrhiza flavonoids against carbon tetrachloride hepatotoxicity in mice. *Yao Xue Xue Bao.* 28(8): 572-576.

- Wang, B., Ma, L., Liu, T. (1990) 406 cases of angina pectoris in coronary heart disease treated with saponin of *Tribulus terrestris*. *Zhong Xi Yi Jie He Za Zhi* 10(2): 85-87.
- Warso, M.A., Lands, W.E.M. (1983) Lipid peroxidation in relation to prostacyclin and thromboxane physiology and pathophysiology. *Br. Med. Bull.* 39: 277-280.
- Wasil, M., Halliwell, B., Moorhouse, C.P. (1988) Scavenging of hypochlorous acid by tetracycline, rifampicin and some other antibiotics: a possible antioxidant action of rifampicin and tetracycline? *Biochem. Pharmacol.* 37(4): 775-778.
- Wensing, G., Sabra, R., Branch, R.A. (1990) Renal and systemic hemody-namics in experimental cirrhosis in rats: relation to hepatic function. *Hepatology* 12: 13-19.
- Wexler, B.C., Greenberg, B.P. (1978) Protective effects of clofibrate on isoproterenol-induced myocardial infarction in arteriosclerotic and non- arteriosclerotic rats. *Atherosclerosis* 29: 373-375.
- Yokode, M., Kita, T., Kikawa, Y., Ogorochi, T., Narumiya, S. (1988) Stimulated arachidonate metabolism during foam cell transformation of mouse peritoneal macrophages with oxidised low density lipoprotein. *J. Clin. Invest.* 81: 720-729.
- Zhou, H., Miyaji, T., Kato, A., Fujigaki, Y., Sano, K., Hishida, A. (1999) Attenuation of cisplatin-induced acute renal failure is associated with less apoptotic cell death. *J. Lab. Clin. Med.* 134(6): 649-658.