

Bibliography

BIBLIOGRAPHY

- Adams, J.P., Murphy, P.G. (2000). "Obesity in anaesthesia and intensive care". *Br. J. Anaesth.* **85** (1): 91–108.
- Adams, L.A., Feldstein, A.E. (2010). Nonalcoholic Steatohepatitis: Risk Factors and Diagnosis: Metabolic Risk Factors for NASH. *Expert. Rev. Gastroenterol. Hepatol.* **4**:623-635.
- Aebi, H. (1974). Catalase. In: Bergmeyer HU (Eds.), *Methods of Enzymatic Analysis*, **11**:673-684. Academic Press, New York. USA.
- Agbor, G.A., Vinson, J.A., Sortino, J., Johnson, R. (2010). Antioxidant and anti-atherogenic activities of three Piper species on atherogenic diet fed hamsters. *Exp. Toxicol. Pathol.* doi:10.1016/j.etp.2010.10.003
- Ahotupa, M., Marniemi, J., Lehtimäki, T., Talvinen, K., Raitakari, O.T., Vasankari, T., Viikari, J., Luoma, J., Ylä-Herttuala, S. (1998). Baseline diene conjugation in LDL lipids as a direct measure of *in vivo* LDL oxidation. *Clin. Biochem.* **31**: 257-261.
- Allison, D.B., Fontaine, K.R., Manson, J.E., Stevens, J., VanItallie, T.B. (1999). "Annual deaths attributable to obesity in the United States". *JAMA* **282** (16): 1530–8.
- Al-Naqeeq, G., Al-Zubairi, A.S., Ismail, M., Amom, Z.H., Esa, N.M. (2011). Anti-atherogenic potential of *Nigella sativa* seeds and oil in diet-induced hypercholesterolemia in rabbits. *Evid. Based Complement. Alternat. Med.* 213628.
- Amarapurkar, D.N., Hashimoto, E., Lesmana, L.A., Sollano, J.D., Chen, P., Goh, K.L. (2007). How common is non-alcoholic fatty liver disease in the Asia-Pacific region, and are there local differences? *J. Gastroenterol. Hepatol.* **22**: 788-793.
- Amom, Z., Azman, K. F., Ismail, N. A., Shah, Z. M. Arshad, M. S. M. (2011), An aqueous extract of *tinospora crista* possesses antioxidative properties and reduces atherosclerosis in hypercholesterolemic-induced rabbits. *J Food Biochem.* Doi: 10.1111/j.1745-4514.2010.00436.x

- Amran, A.A., Zakaria, Z., Othman, F., Das, S., Raj, S., Nordin, N.A. (2010). Aqueous extract of *Piper sarmentosum* decreases atherosclerotic lesions in high cholesterolemic experimental rabbits. *Lipids Health Dis.* 9:44.
- Angelico F, Burattin M, Alessandri C, Del Ben M, Lirussi F. (2007). Drugs improving insulin resistance for non-alcoholic fatty liver disease and/or non-alcoholic steatohepatitis. *Cochrane Database Syst Rev.* 24: CD005166.
- Anghel, S.I., Wahli, W. (2007). Fat poetry: a kingdom for PPAR γ . *Cell Research* 17:486-511.
- Angulo, P. (2002). Nonalcoholic fatty liver disease. *N. Engl. J. Med.* 346:1221-1231.
- Anonymous, 1753. *Clerodendrum* page 637. In: Carolus Linnaeus. 1753. *Species Plantarum* volume 2. Laurentii Salvii. (see *External Links* below).
- Anonymous. Ayurveda". New Delhi, India: Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy, *Ministry of Health & Family Welfare, Government of India.* <http://indianmedicine.nic.in/ayurveda.asp>. (accessed on 12.01.2011)
- Aronne, L.J., Isoldi, K.K. (2007). Overweight and Obesity: Key Components of Cardiometabolic Risk. *Clinical Cornerstone* 8: 29-37.
- Asmis, R., Begley, J.G. (2003). Oxidized LDL promotes peroxide-mediated mitochondrial dysfunction and cell death in human macrophages: a caspase-3-independent pathway. *Circ Res.* 92: e20-29.
- Atherosclerosis: Treatments and drugs, Mayo clinic health information. <http://www.mayoclinic.com/health-information> (accessed on 21 June 2011)
- Aviram, M., Fuhrman, B. (1998). Polyphenolic flavonoids inhibit macrophage-mediated oxidation of LDL and attenuate atherogenesis. *Atherosclerosis.* 137: 45-50.
- Barakat, M. Z., Shehab, S.K., Darwish, N., Zahermy, E.I. (1973). Determination of ascorbic acid from plants. *Anal. Biochem.* 53:225-247.
- Barrett-Connor, E., Bush, T.L. (1991). Estrogen and coronary heart disease in women. *JAMA* 265: 1861-1867.

- Begum, D., Nath, S.C. (2000). Ethnobotanic review of medicinal plants used for skin diseases and related problems in Northeastern India. *J. Herbs, Spices and Medicinal Plants*. 7:55-93.
- Belfort, R., Harrison, S.A., Brown, K., et al. (2006). A placebo-controlled trial of pioglitazone in subjects with nonalcoholic steatohepatitis. *N. Engl. J. Med.* 355:2297-2307.
- Bellentani, S and Marino, M. (2009). Epidemiology and natural history of non-alcoholic fatty liver disease (NAFLD). *Annals of Hepatology*. 8: S4-S8.
- Bernlohr, D. A., Bolanowski, M. A., Kelly, T. J., Lane, M. D. (1985). Evidence for an increase in transcription of specific mRNAs during differentiation of 3T3-L1 preadipocytes. *J. Biol. Chem.* 260:5563-5567.
- Berrougui H, Isabelle M, Cherki M, Khalil A. (2006). Marrubium vulgare extract inhibits human-LDL oxidation and enhances HDL-mediated cholesterol efflux in THP-1 macrophage. *Life Sci*. 80:105-112.
- Beutler, E., Duron, O., Kelly, B.M. (1963). Improved method for the determination of blood glutathione. *J. Lab. Clin. Med.* 61: 882-888.
- Bierman, E.L. (1992). George Lyman Duff Memorial Lecture. Atherogenesis in diabetes. *Arterioscler. Thromb.* 12: 647-656.
- Birari, R., Javia, V., Bhutani, K.K. (2010). Antiobesity and lipid lowering effects of *Murraya koenigii* (L.) Spreng leaves extracts and mahanimbine on high fat diet induced obese rats. *Fitoterapia* 81(8):1129-33.
- Black BL, Croom J, Eisen EJ, et al. (1998). Differential effects of fat and sucrose on body composition in A/J and C57BL/6 mice. *Metabolism* 47:1354-1359.
- Bobryshev, Yuri V. (2006). Monocyte recruitment and foam cell formation in atherosclerosis. *Micron* 37 :208-222.
- Bose, M., Lambert, J.D., Ju, J., Reuhl, K.R., Shapses, S.A., Yang, C.S. (2008). The major green tea polyphenol, (-)-epigallocatechin-3-gallate, inhibits obesity, metabolic syndrome, and fatty liver disease in high fat fed mice. *J. Nutr.* 138: 1677-1683.

- Brown, M.S., Goldstein, J.L. (1997). The SREBP pathway: regulation of cholesterol metabolism by proteolysis of a membrane-bound transcription factor. *Cell* **89**:331-340.
- Browning, J.D., Horton, J.D. (2004). Molecular mediators of hepatic steatosis and liver injury. *J Clin Invest*. **114**:147-152.
- Buege, J.A., Aust, S.D. (1978). Microsomal lipid peroxidation. *Methods Enzymol*. **52**: 302-310.
- Caballero, B. (2007). "The global epidemic of obesity: An overview". *Epidemiol Rev* **29**: 1-5
- Cai, G.J., Miao, C.Y., Xie, H.H., Lu, L.H., Su, D.F. (2005). Arterial baroreflex dysfunction promotes atherosclerosis in rats. *Atherosclerosis* **183**: 41-47.
- Cai, S., Huang, C., Ji, B., Zhou, F., Wise, M.L., Zhang, D., Yang, P. (2011). *In vitro* antioxidant activity and inhibitory effect, on oleic acid-induced hepatic steatosis, of fractions and subfractions from oat (*Avena sativa* L.) ethanol extract. *Food Chem*. **124**: 900-905.
- Caldwell, S.H., Swerdlow, R.H., Khan, E.M., Iezzoni, J.C., Hespenheide, E.E., Parks, J.K., Parker, W.D. (1999). Mitochondrial abnormalities in non-alcoholic steatohepatitis. *J. Hepatol*. **31**: 430-434.
- Calixto, J.B. (2000). Efficacy, safety, quality control, marketing and regulatory guidelines for herbal medicines (phytotherapeutic agents). *Braz. J. Med. Biol. Res.* **33**: 179-189.
- Chandler, S.F., Dodds, J.H. (1993). The effect of phosphate, nitrogen, and sucrose on the production of phenolics and solasidine in callus cultures of *Solanum laciniatum*. *Plant cell Reports*. **2**: 105-110.
- Chang, C., Yang, M., Wen, H., Chern, J. (2002). Estimation of total flavonoid content in propolis by two complementary colorimetric methods. *J. Food Drug Anal.* **10**: 178-182.

- Chang, Y.C., Huang, K.X., Huang, A.C., Ho, Y.C., Wang, C.J. (2006). Hibiscus anthocyanins-rich extract inhibited LDL oxidation and oxLDL-mediated macrophages apoptosis. *Food Chem Toxicol.* **44**:1015-1023.
- Charlton, M. (2004). Nonalcoholic fatty liver disease: a review of current understanding and future impact. *Clin Gastroenterol hepatol.* **2**:1048–1058.
- Chidambaram, J., Venkatraman, A.C. (2010). *Cissus quadrangularis* stem alleviates insulin resistance, oxidative injury and fatty liver disease in rats fed high fat plus fructose diet. *Food Chem. Toxicol.* DOI: 10.1016/j.fct.2010.04.044.
- Chien, P. J., Chen, Y.C., Lu, S.C., Sheu, F. (2005). Dietary flavonoids suppress adipogenesis in 3T3-L1 preadipocytes. *J. Food Drug Anal.* **13**: 168-175.
- Chisolm, G.M., Steinberg, D. (2000). The oxidative modification hypothesis of atherogenesis: an overview. *Free Radic. Biol. Med.* **28**:1815-26.
- Chitturi, S., Abeygunasekera, S., Farrell, G.C., Holmes-Walker, J., Hui, J. M., Fung, C., Karim, R., Lin, R., Samarasinghe, D., Liddle, C., Weltman, M., George, Jacob. (2002). NASH and insulin resistance: Insulin hypersecretion and specific association with the insulin resistance syndrome. *Hepatology.* **35**: 373-379.
- Choi, H., Eo, H., Park, K., Jin, M., Park, E.J., Kim, S.H., Park, J.E., Kim, S. (2007). A water-soluble extract from *Cucurbita moschata* shows anti-obesity effects by controlling lipid metabolism in a high fat diet-induced obesity mouse model. *Biochem. Biophys. Res. Comm.* **359**: 419-425.
- Chu, C.Y., Lee, H.J., Chu, C.Y., Yin, Y.F., Tseng, T.H. (2009). Protective effects of leaf extract of *Zanthoxylum ailanthoides* on oxidation of low-density lipoprotein and accumulation of lipid in differentiated THP-1 cells. *Food Chem Toxicol.* **47**:1265-1271.
- Tsigos, C., Hainer, V., Basdevant, A., Finer, N., Fried, M., Mathus-Vliegen, E., Micic, D., Maislos, M., Roman, G., Schutz, Y., Toplak, H., Zahorska-Markiewicz, B. (2008). "Management of Obesity in Adults: European Clinical Practice Guidelines". *The Eur. J. Obes.* **1** (2): 106–16.

- Cornelius, P., MacDougald, O. A., Lane, M. D. (1994). Regulation of adipocyte development. *Annu. Rev. Nutr.* **14**:99-129.
- Crespo, J., Cayon, A., Fernandez-Gil, P., et al. (2001). Gene expression of tumor necrosis factor alpha and TNF-receptors, p55 and p75, in nonalcoholic steatohepatitis patients. *Hepatology*. **34**: 1158–1163.
- Cui, W., Chen, S. L., Hu, K. (2010). Quantification and mechanisms of oleic acid-induced steatosis in HepG2 cells. *Am. J. Transl. Res.* **2**: 95-104.
- Cui, Y., Blumenthal, R.S., Flaws, J.A., Whiteman, M.K., Langenberg, P., Bachorik, PS, Bush TL (2001) Non-high-density lipoprotein cholesterol level as a predictor of cardiovascular disease mortality. *Arch. Intern. Med.* **161**: 1413-1419.
- Cushing, S. D., Berliner, J. A., Valente, A. J. et al. (1990). . Minimally modified low density lipoprotein induces monocyte chemotactic protein 1 in human endothelial cells and smooth muscle cells. *Proc.Natl. Acad. Sc. U.S.A.* **87**: 5 134-5 138.
- Dabhi, A.S., Brahmhatt, K.J., Pandya, T.P., Thorat, P.B., Shah, M.C. (2008).Non-Alcoholic Fatty Liver Disease (NAFLD). *J. Indian. Acad. Clin. Med.* **9**: 36-41.
- Daniel, R.S., Devi, K.S., Augusti, K.T., Sudhakaran, N.C.R. (2003)/ Mechanism of action of antiatherogenic and related effects of Ficus bengalensis Linn. flavanoids in experimental animals. *Indian J. Exp. Boil.* **4**:296-303.
- Davies, M.J., Gordon, J.L., Gearing, A.J., Pigott, R., Woolf, N., Katz, D.,Kyriakopoulos, A. (1993). The expression of the adhesion molecules ICAM-1, VCAM-1, PECAM, and E-selectin in human atherosclerosis. *J. Pathol.* **171** :223–229.
- Day, C.P. (2002). Non-alcoholic steatohepatitis (NASH): where are we now and where are we going? *Gut*. **50**:585-588.
- Day, C.P., James, O. (1998). Steatohepatitis: a tale of “two hits”?. *Gastroenterology*. **114**: 842-845.
- Deb, S., Arunachalam, A., Das, A.K. (2009). Indigenous knowledge of Nyishi tribes on traditional agroforestry systems. *Indian J. Traditional Knowledge* **8**: 41–46.
- Dipiro T.Joseph. (2005). Pharmacotherapy, A pathophysiological approach, 6th edition, The Mc Graw Hill companies, Inc. Pg.435

- Dole, V.P. (1955). The microdetermination of free fatty acids. *J. Lipid Res.* **6**: 151–157.
- Doll, R., Hill, A.B. (1956). Lung cancer and other causes of death in relation to smoking: a second report on the mortality of British doctors. *Br. Med. J.* **2**: 1071–1081.
- Drew, B.S., Dixon, A.F., Dixon, J.B. (2007). Obesity management: update on orlistat. *Vasc. Health Risk. Manag.* **3**: 817–821.
- Duell, P. B., Wheaton, D. L., Shultz, A. ., Nguyen, H. (1998). Inhibition of LDL oxidation by melatonin requires supraphysiologic concentrations. *Clin. Chem.* **44**:1931-1936
- Duvnjak, M., Lerotić, I., Baršić, N., Tomašić, V., Jukić, L.V., Velagić, V. (2007). Pathogenesis and management issues for non-alcoholic fatty liver disease. *World. J. Gastroenterol.***13**: 4539-4550.
- Edmison, J., McCullough, A. J. (2007). Pathogenesis of non-alcoholic steatohepatitis: human data. *Clin Liver Dis.* **11**:75–104.
- Ellman G. (1959). Tissue sulfhydryl groups. *Arch. Biochem. Biophys.* **82**: 70-77.
- English, J.P., Willius, F.A., Berkse, N.J. (1940). Tobacco and coronary disease. *JAMA* **115**: 1327–1329.
- Erickson, S.K. Nonalcoholic fatty liver disease (NAFLD). (2009). *J Lipid Res.* **50**: S412-S416.
- Esterbauer, H., Striegl, G., Puhl, H., Rotheneder, M. (1989). Continuous monitoring of *in vitro* oxidation of human low density lipoprotein. *Free Rad. Res. Comm.* **6**: 67-75.
- Fan, J.G., Jia, J., Li, Y.M., Wang, B.Y., Lu, L.G., Shi, J.P., Chan, L.Y. (2011). Guidelines for the diagnosis and management of nonalcoholic fatty liver disease: Update 2010. *J Dig Dis.* **12**: 38-44.
- Fears, R., Richards, D.H., Ferres, H. (1980). The effect of compactin, a potent inhibitor of 3-hydroxy-3-methylglutaryl coenzyme-A reductase activity, on cholesterogenesis and serum cholesterol levels in rats and chicks. *Atherosclerosis.* **35**: 439-49

- Folch, J., Lees, M., Stanley, S.G.H. (1957). A simple method for the isolation and purification of total lipids from animal tissues. *J. Biol. Chem.* **226**: 497-509.
- Frankel, E.N., Kanner, J., German, J.B., Parks, E., Kinsella, J.E. (1993). Inhibition of oxidation of human low-density lipoprotein by phenolic substances in red wine. *Lancet.* **341**: 454-457.
- Fried, M., Hainer, V., Basdevant, A., et al. (2007). "Inter-disciplinary European guidelines on surgery of severe obesity". *Int. J. Obes. (Lond).* **31** (4): 569-77.
- Friedewald, W.T., Levy, R.I., Fredrickson, D.S. (1972). Estimation of the concentration of low-density lipoprotein cholesterol in plasma, without use of the preparative ultracentrifuge. *Clin. Chem.* **18**: 499-502.
- Fromenty, B., Robin, M.A., Igoudjil, A., Mansouri, A., Pessayre, D. (2004). The ins and outs of mitochondrial dysfunction in NASH. *Diabetes. Metab.* **30**:121-138.
- Frost, P.H., Davis, B.R., Burlando, A.J., Curb, J.D., Guthrie, G.P., Isaacsohn, J.L., Wassertheil-Smoller, S., Wilson, A.C., Stamler, J. (1996). Serum lipids and incidence of coronary heart disease. Findings from the Systolic Hypertension in the Elderly Program (SHEP). *Circulation.* **94**: 2381-2388.
- Gillotte-Taylor, K., Boullier, A., Witztum, J.L., Steinberg, D., Quehenberger, O. (2001). Scavenger receptor class B type I as a receptor for oxidized low density lipoprotein. *J. Lipid Res.* **42**(9):1474-82.
- Ginsberg, H.N. (1990). Lipoprotein physiology and its relationship to atherogenesis. *Endocrinol. Metab. Clin. N. Am.* **19**: 211-228.
- Ginsberg, H.N. (1998). Lipoprotein physiology. *Endocrinol Metab Clin North Am.* **27**: 503-19
- Goad, L.J., Akihisa, T. (1997). Quantification of sterol by calorimetric assay. Analysis of sterols, first ed. Blackie Academic and Professional, an imprint of Chapman and Hall, London, U K, pp. 423-425.
- Grattagliano, I., Vendemiale, G., Caraceni, P., et al. (2000). Starvation impairs antioxidant defense in fatty livers of rats fed a choline-deficient diet. *J. Nutr.* **130**:2131-2136.

- Green, H., Kehinde, O. (1974). An established pre-adipose cell line and its differentiation in culture. *Cell* 1:113-116.
- Green, H., Kehinde, O. (1979). Formation of normally differentiated subcutaneous fat pads by an established preadipose cell line. *J. Cell Physiol.* 101:169-172
- Gupta, A., Sehgal, V., Mehan, S. (2011). Hyperlipidemia: An update review. *Int. J. Biopharm. Toxicol. Res.* 1:1.
- Gutteridge, J.M.C. (1995). Lipid peroxidation and antioxidants as biomarkers of tissue damage. *Clin. Chem.* 41: 1819–1828.
- Habig, W.H., Pabst, M.J., Jakoby, W.B. (1974). Glutathione S-transferases. The first enzymatic step in mercapturic acid formation. *J. Biol. Chem.* 249:7130-7139.
- Hammond, E.C., Horn, D. (1958). Smoking and death rates: report on forty-four months of follow-up of 187,783 men. 2. Death rates by cause. *J. Am. Med. Assoc.* 166: 1294–1308,
- Han, L.K., Zheng, Y.N., Xu, B.J., Okuda, H., Kimura, Y. (2002). Saponins from *Platycodon radix* ameliorate high diet-induced obesity in mice. *J. Nutr.* 132: 2241–2245.
- Harrison, S.A., Fincke, C., Helinski, D., Torgerson, S., Hayashi, P. (2004). A pilot study of orlistat treatment in obese, nonalcoholic steatohepatitis patients. *Aliment. Pharmacol. Ther.* 20:623-628.
- Haslam, D.W., James, W.P. (2005). "Obesity". *Lancet* 366 (9492): 1197–209.
- Hata, K., Hiwatashi, K., Itoh, M., Suzuki, N., Watanabe, T., Takahashi, J., Sasaki, H. (2008). Inhibitory effects of lupeol on 3T3-L1 preadipocyte differentiation. *Phytochem. Lett.* 1: 191–194.
- Havel, R.J., Kane, J.P. (1995). Introduction: structure and metabolism of plasma lipoproteins. In "The Metabolic and Molecular Bases of Inherited Disease", pp. 1841–1851. McGraw-Hill, New York.
- Henry, N., Ginsberg, M.D. (2002). New perspectives on atherogenesis: role of abnormal triglyceride-rich lipoprotein metabolism. *Circulation* 106: 2137–2140.
- Hitz, J., Steinmetz, J., Siest, G. (1983). Plasma lecithin: cholesterol acyl transferase reference values and effects of xenobiotics. *Clin. Chim. Acta.* 133 (1): 85–96.

- Ho, H., Hsu, L., Chan, K., Chen, H., Wu, C., Wang, C. (2010). Extract from the leaf of *nucifera* reduced the development of atherosclerosis via inhibition of vascular smooth muscle cell proliferation and migration. *Food Chem Toxicol.* **48**: 159-168.
- Honda, H., Ikejima, K., Hirose, M., et al. (2002). Leptin is required for fibrogenic responses induced by thioacetamide in the murine liver. *Hepatology.* **36**:12–21.
- Howard, Natasha, J., Taylor, A., Gill, T., Chittleborough, C. (2008). "Severe obesity: Investigating the socio-demographics within the extremes of body mass index". *Obes. Res. Clin. Prac.* **2** (1): 51–59.
- Hsiao, J.Y., Lin, M.L. (1995) A Chemotaxonomic study of essential oils from the leaves of genus *Clerodendrum* (Verbenaceae) native to Taiwan. *Bot. Bull. Acad. Sin.* **36**: 247-251.
- Hsieh,Y., Kuo,W., Lin,T., Chang,H., Lin,T., Chen,P., Chu,P. (2007). Protective Effects of Berberine against Low-Density Lipoprotein (LDL) Oxidation and Oxidized LDL-Induced Cytotoxicity on Endothelial Cells. *J Agri Food Chem.* **55**: 10437–10445.
- Husain,G.M., Chatterjee, S.S., Singh, P.N., Kumar, V. (2011). Hypolipidemic and antiobesity-Like Activity of Standardised Extract of *Hypericum perforatum* L. in Rats. *ISRN Pharmacology* doi:10.5402/2011/505247.
- Hussein, O., Grosowski, M., Schlesinger, S., Szvalb, S., Assy, N. (2007). Orlistat reverse fatty infiltration and improves hepatic fibrosis in obese patients with nonalcoholic steatohepatitis (NASH). *Dig. Dis. Sci.* **52**:2512-2519.
- Hutton, B., Fergusson, D. (2004). Changes in body weight and serum lipid profile in obese patients treated with orlistat in addition to a hypocaloric diet: a systematic review of randomized clinical trials, *Am. J. Clin. Nutr.* **80** :1461–1468.
- Iiyama, K., Hajra, L., Iiyama, M., Li, H., Dichiaro, M., Medoff, B.D., et al. (1999). Patterns of vascular cell adhesion molecule-1 and intercellular adhesionmolecule-

- l expression in rabbit and mouse atherosclerotic lesions and at sites predisposed to lesion formation. *Circ. Res.* **85**:199–207.
- Ikeda, I., Sugano, M. (1998). Inhibition of cholesterol absorption by plant sterols for mass intervention. *Curr. Opin. Lipidol.* **9**(6): 527-531.
- Ikejima, K., Honda, H., Yoshikawa, M., et al. (2001). Leptin augments inflammatory and profibrogenic responses in the murine liver induced by hepatotoxic chemicals. *Hepatology.* **34**: 288–297.
- Imaz, I., Martínez-Cervell, C., García-Alvarez, E.E., Sendra-Gutiérrez, J.M., González-Enríquez, J. (2008). "Safety and effectiveness of the intragastric balloon for obesity. A meta-analysis". *Obes Surg* **18** (7): 841–6.
- Isner, J.M., Kearney, M., Bortman, S., Passeri, J. (1995). Apoptosis in human atherosclerosis and restenosis. *Circulation.* **91**: 2703-2711.
- Iso, H., Naito, Y., Sato, S., Kitamura, A., Okamura, T., Sankai, T., Shimamoto, T., Iida, M., Komachi, Y. (2001) Serum triglycerides and risk of coronary heart disease among Japanese men and women. *Am. J. Epidemiol.* **153**: 490-499.
- Iwu, M.M., Duncan, A.R., Okunji, C.O. New antimicrobials of plant origin. In: Janick J, editor. Perspectives on new crops and new uses. Alexandria: ASHS Press; (1999). pp. 457.
- Jadeja, R.N., Thounaojam, M.C., Ansarullah, Devkar, R.V., Ramachandran, A.V. (2009a). A preliminary study on hypolipidemic effect of aqueous leaf extract of *Clerodendron glandulosum*. *Coleb. Int. J. Green Pharm.* **3**:285-9.
- Jadeja, R., Thounaojam, M., Ansarullah., Ramachandran, A.V., Devkar, R., (2009b). Phytochemical constituents and free radical scavenging activity of *Clerodendron glandulosum*. *coleb methanolic extract. J. Compl. Integr. Med.* **6**: 19.
- Jadeja, R.N., Thounaojam, M.C., Ansarullah, Patel, V.B., Devkar, R. V., Ramachandran, A.V. (2010). Protective effect of *Clerodendron glandulosum*. extract against experimentally induced metabolic syndrome in rats. *Pharm. Biol.* **48**:1312-1319.
- Jadeja, R. N., Thounaojam, M. C., Ansarullah., Jadav, S. V., Patel, M. D., Patel, D. K, Salunke, S. P., Padate, G. S., Devkar, R. V., Ramachandran, A.V. (2011).

- Toxicological evaluation and hepatoprotective potential of *Clerodendron glandulosum*. Coleb leaf extract. *Hum. Exp. Toxicol.* **30**:63-70.
- Jamir, T.T., Sharma, H.K., Dolui, A.K. (1999). Folklore medicinal plants of Nagaland, India. *Fitoterapia*, **70**: 395-401.
- Janorkar, A.V., King, K.R., Megeed, Z., Yarmush, M.L. (2009). Development of an *in vitro* cell culture model of hepatic steatosis using hepatocyte-derived reporter cells. *Biotechnol Bioeng.* **102**: 1466-1474.
- Jelinek, D.F., Andersson, S., Slaughter, C.A., Russell, D.W. (1990). Cloning and regulation of cholesterol 7 α -hydroxylase, the rate-limiting enzyme in bile acid biosynthesis. *J. Biol. Chem.* **265**: 8190-8197.
- Jong-Ho, K., Jin-Man, K., Un-Jae, C., Hyung-Joo, S. (2003). Hypocholesterolemic Effect of Hot-Water Extract from Mycelia of *Cordyceps sinensis*. *Biol. Pharm. Bull.* **26**: 84-87.
- Joseph, D.T. (2008). Pharmacotherapy, A pathophysiological approach, 6th edition, The Mc Graw Hill companies, Inc. pp.435.
- Jou, J., Choi, S.S., Diehl, A.M. (2008). Mechanisms of disease progression in nonalcoholic fatty liver disease. *Semin Liver Dis.* **28**:370-379.
- Jubilee, P., Subhan, C.N., Islamb, M. (2005). Ethnobotany of medicinal plants from Dibru-Saikhowa Biosphere Reserve of Northeast India. *Fitoterapia* **76**:121-127.
- Kakkar, P., Das, B., Viswanathan, P.N. (1984). A modified spectrophotometric assay of SOD. *Indian. J. Biochem. Biophys.* **21**: 130-132.
- Kala, C.P. (2005). Ethnomedicinal botany of the Apatani in the Eastern Himalayan region of India. *J Ethnobiol. Ethnomed* **1**: 11.
- Kamalakkannan, S., Rajendran, R., Venkatesh, R.V., Clayton, P., Akbarsha, M.A. (2010). Antiobesogenic and antiatherosclerotic properties of *Caralluma fimbriata* extract. *J. Nutr. Metab.* 2010:28530.
- Kamboj, V.P. (2000). Herbal medicine. *Curr. Sci*, **78**:1.

- Karamadoukis,C., Shivashankar G.H., Ludeman L., Williams, A.J. (2009). An unusual complication of treatment with orlistat, *Clin. Nephrol.* **71** : 430–432.
- Khanna, K., Ramesh, C., Kapoor, N. K. (1996). *Terminalia arjuna*: an Ayurvedic Cardi tonic, Regulates Lipid Metabolism in Hyperlipaemic Rats. *Phytother. Res.* **10**(8):663-665.
- Khoo, J.C., Miller, E., McLoughlin, P., Steinberg, D. (1988). Enhanced macrophage uptake of low density lipoprotein after self-aggregation. *Arteriosclerosis* **8**: 348-358.
- Kim, J. B., Wright, H. M., Wright, M., and Spiegelman, B. M. (1998). ADD1/SREBP1 activates PPAR γ through the production of endogenous ligand. Proceedings of the National Academy of Sciences USA. **95**: 4333–4337.
- Kim, M.J., Kim, H.K. (2009). Perilla leaf extract ameliorates obesity and dyslipidemia induced by high-fat diet. *Phytotherapy Res.* **23**: 1685-1690.
- Kim, Y.J.,Kim, K.Y., Kim, M.S.,Lee, J.H., Lee, H.P., Park, T. (2008). A mixture of the aqueous extract of *Garcinia cambogia*, soy peptide and L-carnitine reduces the accumulation of visceral fat mass in rats rendered obese by a high fat diet. *Genes and nutrition* **2**: 353-358.
- Kim, Y.S., Lee, Y.M., Kim, H., Kim, J., Jang, D.S., Kim, J.H., Kim, J.K. (2010). Anti-obesity effect of *Morus bombycis* root extract: Anti-lipase activity and lipolytic effect. *J. Ethnopharmacol.* **130**: 621–624.
- Klein, R.L., Rudel, L.L. (1983). Cholesterol absorption and transport in thoracic duct lymph lipoproteins of nonhuman primates. Effect of dietary cholesterol level. *J. Lipid. Res.* **24**: 343–356.
- Kockx, M.M. (1998). Apoptosis in the atherosclerotic plaque: quantitative and qualitative aspects. *Arterioscler Thromb Vasc Biol.* **18**: 1519-1522.
- Kockxa, M.M., Hermanb, A.G. (2000). Apoptosis in atherosclerosis: beneficial or detrimental? *Cardiovascular Res.* **45**: 736–746.

- Kohjima, M., Enjoji, M., Higuchi, N., Kato, M., Kotoh, K., Nakashima, M., Nakamuta, M. (2009). The effects of unsaturated fatty acids on lipid metabolism in HepG2 cells. *In Vitro. Cell.Dev.Biol.-Animal*. **45**: 6-9.
- Kok, N.N., Roberfroid, M., Robert, A., Delzenne, N. (1996) .Involvement of lipogenesis in the lower VLDL secretion induced by oligofructose in rats. *Br. J. Nutr.* **76**: 881–890.
- Kolodgie, F.D., Narula, J., Guillo, P., Virmani, R. (1999). Apoptosis in human atherosclerotic plaques. *Apoptosis*. **4**:5-10.
- Koruk, M., Taysi, S., Savas, M. C., Yilmaz, O., Akcay, F., Karakok, M. (2004). Oxidative stress and enzymatic antioxidant status in patients with non-alcoholic steatohepatitis. *Ann. Clin. Lab. Sci.* **34**: 1.
- Kothari, H.V., Miller, B.F., Kritchevsky, D. (1973). Aortic cholesterol esterase: characteristics of normal rat and rabbit enzyme. *Biochim. Biophys. Acta*. **296** (2): 446–454.
- Kovanen, P.T., Schneider, W.J. (1999). Regulation of low density lipoprotein (B/F) receptor. *Ad. Vas. Boil.* **5**:165-185.
- Lawrence, L.R., Gregory, S.S. (2000). Cholesterol esters and atherosclerosis—a game of ACAT and mouse. *Nat. Med.* **6**: 1341–1347.
- Lean, M.E. (2001). How does sibutramine work?, *Int. J. Obes. Relat. Metab. Disord.* **4** : S8–S11.
- Lee, M., Chou, F., Tseng, T., Hsieh, M., Lin, M., Wang, C. (2002). *Hibiscus* Protocatechuic Acid or Esculetin Can Inhibit Oxidative LDL Induced by Either Copper Ion or Nitric Oxide Donor. *J. Agri. Food Chem.* **50**:2130–2136.
- Lee, M.S., Kwun, I.S., Kim, Y. (2008). Eicosapentaenoic acid increases lipolysis through up-regulation of the lipolytic gene expression and down-regulation of the adipogenic gene expression in 3T3-L1 adipocytes. *Genes and Nutrition* **2**: 327-330.

- Legraud, A., Guillansseav, R., Land, J. (1979). Method. Colorimetric simple determination del'actirit, de la lecithin cholesterol acyltransferase (LCAT) plasma fique. Interest on diabetologic. In: Siest, G., Glateau, M.M. (Eds.), *Biologic Prospective*. Masson, Paris, pp. 368–371.
- Lehmann, J.M., Kliewer, S.A., Moore, L.B., Smith-Oliver, T.A., Oliver, B.B., Su, J.L., Sundseth, S.S., Winegar, D.A., Blanchard, D.E., Spencer, T.A., Willson, T.M. (1997). Activation of the nuclear receptor LXR by oxysterols defines a new hormone response pathway. *J. bio. chem.* **272**(6): 3137-3140.
- Lewis, J.R., Mohanty, S.R. (2010). Nonalcoholic fatty liver disease: a review and update. *Dig. Dis. Sci.* **55**:560-578.
- Libby P, Ridker PM, Maseri A. Inflammation and Atherosclerosis. *Circulation* 2002, 105:1135-1143.
- Libby, P. Inflammation in atherosclerosis. (2002). *Nature* **420** (6917):868-74.
- Lirussi, F., Azzalini, L., Orlando, S., Orlando, R., Angelico, F. (2007). Antioxidant supplements for non-alcoholic fatty liver disease and/or steatohepatitis. *Cochrane. Database Syst. Rev.* **24**:CD004996.
- Lourida, E.S., Papathanasiou, A.I., Goudevenos, I., Elisaf, M.S., Michalis, L.K., Sideris, D., Tselepis, A.D. (2002). Elevated Titer of Autoantibodies Against oxidized LDL Forms in Patients with Coronary Artery Disease. *Hellenic J. Cardiol.* **43**: 38-46.
- Lowry, O.H., Rosebrough, N.J., Farr, A.L., Randall, R.J. (1951). Protein measurement with the folin phenol reagent. *J. Biol. Chem.* **193**:265-275.
- Ludwig, J., Viggiano, T.R., McGill, D.B., BJ OH. (1980). Nonalcoholic steatohepatitis: Mayo Clinic experiences with a hitherto unnamed disease. *Mayo Clin Proc.* 1980; 55:434-438.
- Lusis, A.J. (2000). Atherosclerosis. *Nature.* **407**:233–41.
- Ma, P.T., Gil, G., Südhof, T.C., Bilheimer, D.W., Goldstein, J.L., Brown, M.S. (1986). Mevinolin, an inhibitor of cholesterol synthesis, induces mRNA for low density

- lipoprotein receptor in livers of hamsters and rabbits. *Proc Natl Acad Sci U S A*, **83**(21): 8370-8374.
- MacMahon, S., Peto, R., Cutler, J., Collins, R., Sorlie, P., Neaton, J., Abbott, R., Godwin, J., Dyer, A., Stamler, J. (1990). Blood pressure, stroke, and coronary heart disease. Part 1. Prolonged differences in blood pressure: prospective observational studies corrected for the regression dilution bias. *Lancet* **335**: 765-774.
- Maffei, M., Halaas, J., Ravussin, E., Pratley, R. E., Lee, G. H., Zhang, Y., Fei, H., Kim, S., Lallone, R., and Ranganathan, S. (1995). Leptin levels in human and rodent: measurement of plasma leptin and ob RNA in obese and weight-reduced subjects. *Nat. Med.* **1**: 1155-1161.
- Maggi, E., Chiesa, R., Melissano, G., Castellano, R., Astore, D., Grossi, A., Finardi, G., Bellomo, G. (1994). LDL oxidation in patients with severe carotid atherosclerosis. A study of *in vitro* and *in vivo* oxidation markers. *Arterioscler. Thromb. Vasc. Biol.* **14**:1892-1899
- Malaguarnera, M., Rosa, M. D., Nicoletti, F., Malaguarnera, L. (2009), Molecular mechanisms involved in NAFLD progression. *J. Mol. Med.* **87**:679-695.
- Manson, J.E., Willett, W.C., Stampfer, M.J., *et al.* (1995). "Body weight and mortality among women". *N. Engl. J. Med.* **333** (11): 677-85.
- Maor, I., Hayek, T., Coleman, R., Aviram, M. (1997). Plasma LDL oxidation leads to its aggregation in the atherosclerotic apolipoprotein E-deficient mice. *Arterioscler. Thromb. Vasc. Biol.* **17**(11):2995-3005.
- Marchesini, G., Brizi, M., Bianchi, G., Tomassetti, S., Bugianesi, E., Lenzi, M., McCullough, A.J., Natale, S., Forlani, G., Melchionda, N. (2001) Nonalcoholic fatty liver disease: a feature of the metabolic syndrome. *Diabetes.* **50**:1844-1850.
- Mary, J.M., Richard, A.V., Pamela, C.C. (2000). "Lippincott's Illustrated Reviews: Pharmacology", 2nd edition. Lippincott Williams & Wilkins, Philadelphia.
- Matteoni, C.A., Younossi, Z.M., Gramlich, T., Boparai, N., Liu, Y.C., McCullough, A.J. (1999). Nonalcoholic fatty liver disease: a spectrum of clinical and pathological severity. *Gastroenterol.* **116**:1413-1419.

- Mauray, A., Felgines, C., Morand, C., Mazur, A., Scalbert, A., Milenkovic, D. (2010). Bilberry anthocyanin-rich extract alters expression of genes related to atherosclerosis development in aorta of apo E-deficient mice. *Nut. Met. Cardio. Dis.*doi:10.1016/j.numecd.2010.04.011.
- Mays, P.A., Felts, J.M. (1968). The functional status of lipoprotein lipase in rat liver. *Biochem. J.* **108**: 483–487.
- Miek, C., Jong, M.H., Hofker, L., Havekes, M. (1999). Role of ApoCs in lipoprotein metabolism: functional differences between ApoC1, ApoC2, and ApoC3. *Arterioscler. Thromb. Vasc. Biol.* **19**: 472–484.
- Mills E, Kuhn CM, Feinglos MN, et al. (1993). Hypertension in CB57BL/6J mouse model of non-insulin-dependent diabetes mellitus. *Am. J. Physiol.* **264**:R73 – R78.
- Mishra, D., Mehta, A., Flora, S.J. S. (2008). Reversal of arsenic-induced hepatic apoptosis with combined administration of DMSA and its analogues in Guinea Pigs: Role of glutathione and linked enzymes. *Chem. Res. Toxicol.* **21**: 400-407.
- Miyake, J.H., Doung, X.D., Strauss, W., Moore, G.L., Castellani, L.W., Curtiss, L.K., Taylor, J.M., Davis, R.A. (2001). Increased production of apolipoprotein Bcontaining lipoproteins in the absence of hyperlipidemia in transgenic mice expressing cholesterol 7alpha-hydroxylase. *J. Biol. Chem.* **276**:23304-23311.
- Mohandas, J., Marshall, J. J., Duggin, G. G., Horvath, J.S., Tiller D. J. (1984). Differential distribution of glutathione and glutathione-related enzymes in rabbit kidney: Possible implications in analgesic nephropathy. *Biochem. Pharmacol.* **33**: 1801-1807.
- Mokdad, A.H., Marks, J.S., Stroup, D.F., Gerberding, J.L. (2004). "Actual causes of death in the United States, 2000" . *JAMA* **291** (10): 1238–45.
- Moldenke, H.N. (1985). Notes on the genus *Clerodendrum* (Verbenaceae). IV. *Phytologia.* **57**: 334-365.
- Mosback, E.H., Klenisky, H.J., Hal, P., Kendall, E.E. (1954). Determination of deoxycholic acid and cholic acid in bile. *Arch. Biochem. Biophys.* **51**: 402-409.

- Mukherjee, P.K. (2001). Evaluation of Indian traditional medicine. *Drug Inf. J.* **35**(2): 623–631.
- Mukherjee, P.K. (2002). "Quality Control of Herbal Drugs". Business Horizons, New Delhi, India. 1st Ed, pp. 543–545.
- Mukherjee, P.K., Wahile, A. (2006). Integrated approaches towards drug development from Ayurveda and other Indian system of medicines. *J. Ethnopharmacol.* **103**:25-35.
- Murray, C. J. & Lopez, A. D. (1997). Global mortality, disability, and the contribution of risk factors: Global burden of Disease Study. *Lancet* **349**: 1436–1442.
- Nakamoto, K., Takayama, F., Mankura, M., Hidaka, Yuki., Egashira, Toru., Ogino, T., Kawasaki, H., Mori, A. (2009). Beneficial-effects of fermented green tea extract in a rat model of non-alcoholic steatohepatitis. *J. Clin. Biochem. Nutr.* **44**: 239-246.
- Nakanishi, M., Goldstein, J.L., Brown, M.S. (1988). Multivalent control of 3-hydroxy-3-methylglutaryl coenzyme A reductase. Mevalonate-derived product inhibits translation of mRNA and accelerates degradation of enzyme. *J. Biol. Chem.* **263**: 8929-37.
- Natarajan, R., Cai, Q. (2005). Monocyte retention in the pathology of atherosclerosis. *Future Cardiology* **1** (3), 331–340.
- Nath, S.C. (2000). Diversity of the higher plants of medicinal value growing in Northeast India in relation to conservation and sustainable use. *J. Assam Sci. Soc. (Biodiversity Special)* **41**: 267-288.
- Nerurkar, P. V. Lee, Y.K., Nerurkar, V.R. (2010). Momordica charantia (bitter melon) inhibits primary human adipocyte differentiation by modulating adipogenic genes. *BMC Complem. Alter. Med.* **10**: 34.
- Ness-Abramof, R., Apovian, C.M. (2006). "Diet modification for treatment and prevention of obesity". *Endocrine* **29** (1): 5–9.
- Neuschwander-Tetri, B.A., Caldwell, S.H. (2003). Nonalcoholic steatohepatitis: summary of an AASLD Single Topic Conference. *Hepatology* **37**:1202-1219.

- Nourooz-zadeh, J., Tajaddini-sarmadi, J., Ling, K. L. E., Wolff, S.P. (1996). Low density lipoprotein is the major carrier of lipid hydroperoxides in plasma relevance to determination of total plasma lipid hydroperoxide concentrations. *Biochem. J.* **313**: 781-786.
- Novikoff, A. B., Novikoff, P. M., Rosen, O. M., Rubin, C. S. (1980). Organelle relationships in cultured 3T3-L1 preadipocytes. *J. Cell Biol.* **87**:180-196
- Oben, J.E., Ngondi, J.L., Blum, K. (2008). Inhibition of *Irvingia gabonensis* seed extract (OB131) on adipogenesis as mediated via down regulation of the PPARgamma and Leptin genes and up-regulation of the adiponectin gene. *Lipids Health Dis.* **7**:44.
- Okamoto, Y., Tanaka, S., Haga, Y. (2002). Enhanced GLUT2 gene expression in an oleic acid-induced *in vitro* fatty liver model. *Hepatol. Res.* **23**:138-144.
- Okita, M., Hayashi, M., Sasagawa, T., et al. (2001). Effect of a moderately energy-restricted diet on obese patients with fatty liver. *Nutrition.* **17**:542-547.
- Oliveira, C. P. M.S., Faintuch, J., Rascovski, A., Furuya C. K., Bastos, M. D. S., Matsuda, M., Nina, B. I. D., Yahnosi, K, A., Vezozzo, D. C. P., Alves, V. A. F., Zilberstein, B., Garrido A. B.Jr., Halpern, A., Carrilho, F. J., Gama-Rodrigues, J. J.(2005). Lipid peroxidation in bariatric candidates with nonalcoholic fatty liver disease (NAFLD) - preliminary findings. *Obesity Surgery.* **15**: 502-505.
- Omagari, K., Kato, S., Tsuneyama, K., Hatta, H., Sato, M., Hamasaki, M., Sadakane, Y., Tashiro, T., Fukuhata, M., Miyata, Y., Tamaru, S., Tanaka, K., Mune, M. (2010). Olive leaf extract prevents spontaneous occurrence of non-alcoholic steatohepatitis in SHR/NDmcr-cp rats. *Pathology.* **42**:66-72.
- Padmanabhan, M., Prince, P. S. M. (2006). Preventive effect of S-allylcysteine on lipid peroxides and antioxidants in normal and isoproterenol-induced cardiotoxicity in rats: A histopathological study. *Toxicology.* **224**:128-137.
- Palinski, W., Rosenfeld, M.E., Ylä-Herttuala, S., Gurtner, G.C., Socher, S.S., Butler, S.W., Parthasarathy, S., Carew, T.E., Steinberg, D., Witztum, J.L. (1989). Low

- density lipoprotein undergoes oxidative modification *in vivo*. *Proc Natl Acad Sci U S A.* **86**(4): 1372–1376.
- Pang, J., Xu, Q., Xu, H., Yin, H., Xu, R., Guo, S., Hao, W., Wang, L., Chen, C., Cao, J. (2010). Hexarelin suppresses high lipid diet and vitamin D3-induced atherosclerosis in the rat. *Peptides* **31**: 630-638.
- Park, E. K., Jung, H. S., Yang, H. I., Yoo, M. C., Kim, C., Kim, K. S. (2007). Optimized THP-1 differentiation is required for the detection of responses to weak stimuli. *Inflamm. Res.* **56**: 45-50.
- Park, H.J., DiNatale, D.A., Chung, M.Y., Park, Y.K., Lee, J.Y., Koo, S.I., O'Connor, M. (2011). Green tea extract attenuates hepatic steatosis by decreasing adipose lipogenesis and enhancing hepatic antioxidant defenses in *ob/ob* mice. *J Nutr. Biochem.* **22**: 393-400.
- Park, J.E., Cha, Y.S. (2010). *Stevia rebaudiana* Bertoni extract supplementation improves lipid and carnitine profiles in C57BL/6J mice fed a high-fat diet. *J.Sci. Food Agri.* **90**:1099–1105.
- Park, K.H., Kim, J.R., Lee, J.S., Lee, H., Cho, K.H. (2010). Ethanol and water extract of purple sweet potato exhibits anti-atherosclerotic activity and inhibits protein glycation. *J. Med. Food.* **13**(1):91-8.
- Park, S.H., Lee, S.G., Kang, S.K., Chung, S.H. (2006). *Acanthopanax senticosus* reverses fatty liver disease and hyperglycemia in *ob/ob* mice. *Arch. Pharm. Res.* **29**: 768-776.
- Patel, S. P., Katyare, S. S. (2006). A comparative study of reactive oxygen species (ros) related parameters in rat tissues. *Indian. J. Clin. Biochem.* **21**: 48-53.
- Patel, T., Lee, J.G. (2001). Fatty liver. *eMed J.* **2**:8.
- Pavlik, S.V., Slovackova, B. (2008). The effect of sibutramine therapy on occurrence of depression symptoms among obese patients, *Nutr. Metab. Cardiovasc. Dis.* **18**:e43–e44.

- Pereira, C.F., Oliveira, C.R. (2000). Oxidative glutamate toxicity involves mitochondrial dysfunction and perturbation of intracellular Ca²⁺ homeostasis. *Neurosci. Res.* **37**: 227–236.
- Pessayre, D., Fromenty, B., Mansouri, A. (2004). Mitochondrial injury in steatohepatitis. *Eur. J. Gastroenterol. Hepatol.* **16**:1095–1105.
- Pessayre, D., Mansouri, A., and Fromenty, B. (2002). Nonalcoholic steatosis and steatohepatitis V. Mitochondrial dysfunction in steatohepatitis. *Am. J. Physiol.* **282**: 193–199.
- Poirier, P., Giles, T.D., Bray, G.A., *et al.* (2006). "Obesity and cardiovascular disease: pathophysiology, evaluation, and effect of weight loss". *Arterioscler. Thromb. Vasc. Biol.* **26** (5): 968–76
- Poston, W.S., Foreyt, J.P. (2004). Sibutramine and the management of obesity, *Expert Opin. Pharmacother.* **5** :633–642.
- Pozarowski, P., Darzynkiewicz, Z. (2004). Analysis of cell cycle by flow cytometry. *Methods Mol. Biol.* **281**:301–312.
- Prajapati, N.D., Purohit, S.S., Sharma, A.K., Kumar, T. *A Handbook of Medicinal Plants*. Jodhpur: Agrobios; 2003.
- Pullinger, C.R., Eng, C., Salen, G., Shefer, S., Batta, A.K., Erickson, S.K., Verhagen, A., Rivera, C.R., Mulvihill, S.J., Malloy, M.J., Kane, J.P. (2002). Human cholesterol 7 α -hydroxylase (CYP7A1) deficiency has a hypercholesterolemic phenotype. *J. Clin. Invest.* **110**: 109–117.
- Pyorala, K., Laakso, M., Uusitupa, M. (1987). Diabetes and atherosclerosis: an epidemiologic view. *Diabetes Metab. Rev.* **3**: 463–524.
- Quehenberger, O. (2005). Molecular mechanisms regulating monocyte recruitment in atherosclerosis. *J Lipid Res.* **46**: 1582–1590.
- Ramalho, R.M., Cortez-Pinto, H., Castro, R.E., *et al.* (2006). Apoptosis and Bcl-2 expression in the livers of patients with steatohepatitis. *Eur. J. Gastroenterol. Hepatol.* **18**:21–29.

- Rao, A.V., Ramakrishnan, S. (1975). Indirect assessment of hydroxy-methylglutaryl-Co A reductase (NADPH) activity in liver tissue. *Clin. Chem.* **21**: 1523-1525.
- Rao, M.R., Palada, M.C., Becker, B.N. (2004). Medicinal and aromatic plants in agroforestry systems. *Agroforestry Systems.* **61**:107–122.
- Rates, S.M.K. (2001). Plants as source of drugs. *Toxicon.* **39**: 603-613.
- Rathi, A.B., Nath, N., Chari, S.N. (1984). Action of bioflavonoids on lipid peroxidation & glutathione redox system in hypercholesterolemic rats. *Indian J. Med. Res.* **79**: 508–513.
- Ratziu, V., Charlotte, F., Heurtier, A., Gombert, S., Giral, P., Bruckert, E., Grimaldi A, Capron F, Poynard T. (2005). LIDO Study Group. Sampling variability of liver biopsy in nonalcoholic fatty liver disease. *Gastroenterology.* **128**: 1898-1906.
- Reid, V.C., Mitchinson, M.J. (1993). Toxicity of oxidised low density lipoprotein towards mouse peritoneal macrophages *in vitro*. *Atherosclerosis* **98**: 17-24.
- Reiner, Z., Tedeschi-Reiner, E. (2006). Atherosclerosis –a paradox of Eastern European countries. *Atherosclerosis* **7/3**(Suppl.): 461.
- Renugadevi, J., Prabu, S.M. (2009). Quercetin protects against oxidative stress-related renal dysfunction by cadmium in rats. *Exp Toxicol Pathol.* DOI:10.1016/j.etp.2009.06.006.
- Reznick, A.Z., Packer, L. (1994). Oxidative damage to proteins: spectrophotometric method for carbonyl assay. *Methods Enzymol.* **233**:357-363.
- Richard, N. F. (2008). Statin Drugs. About. Com: Heart Disease. March 18, New York.
- Stocker, R., Keaney, J.F. (2004). Role of Oxidative Modifications in Atherosclerosis. *Physiol. Rev.* **84**: 1381–1478.
- Rosenfeld, M.E., Palinski, W., Yla-Herttuala, S., Butler, S., Witztum, J.L. (1990). Distribution of oxidation specific lipid-protein adducts and apolipoprotein B in atherosclerotic lesions of varying severity from WHHL rabbits. *Arteriosclerosis.* **10**:336– 49.

- Roskams, T., Yang, S.Q., Koteish, A., Durnez, A., DeVos, R., Huang, X., et al. (2003). Oxidative stress and oval cell accumulation in mice and humans with alcoholic and nonalcoholic fatty liver disease. *Am. J. Pathol.* **163**:1301–1311.
- Rotruck, J. T., Pope, A. L., Ganther, H., Swanson, A. B., Hafeman, D. H. and Hoekstra, W. G. (1973). Selenium: Biochemical role as a component of glutathione peroxidase. *Science*. **179**: 588- 590.
- Rueda, R.M. (1993). The genus *Clerodendrum* (Verbenaceae) in Mesoamerica. *Annals Miss. Bot Gard.* **80**: 870-890.
- Safar, M.E., Levy, B.I., Struijker-Boudier, H. (2003). Current perspectives on arterial stiffness and pulse pressure in hypertension and cardiovascular diseases. *Circulation* **107**: 2864–2869.
- Sahoo, N., Manchikanti, P., Dey, S. (2010). Herbal drugs: standards and regulation. *Fitoterapia*. **81**:462-471
- Sajem, A.L., Rout, J., Nath, M. (2008). Traditional Tribal knowledge and Status of some Rare and Endemic Medicinal Plants of North Cachar Hills District of Assam, Northeast India. *Ethnobotanical Leaflets*. **12**: 261-275.
- Salmon, J., Timperio, A. (2007). "Prevalence, trends and environmental influences on child and youth physical activity". *Med. Sport. Sci.* **50**: 183–99.
- Sattler W, Levak-evak S, Radner H, Kostner G M and Zechner R 1996. Muscle-specific overexpression of lipoprotein lipase in transgenic mice results in increased a-tocopherol levels in skeletal muscle. *Biochem. J.* **318**: 15-19.
- Schemmel, R., Mickelsen, O., Gill, J.L. (1969). Dietary obesity in rats: body weight and body fat accretion in seven strains of rats. *J. Nutr.* **100**:1041 –1048.
- Schmitz, G., Langmann, T. (2001). Structure, function and regulation of the ABC1 gene product. *Curr. Opin. Lipidol.* **12**: 129-140.
- Schoonjans, K., Peinado-Onsurbe, J., Lefebvre, A.M., Heyman, R.A., Briggs, M., Deeb, S., Staels, B., Auwerx, J. (1996). PPARalpha and PPARgamma activators direct a distinct tissue-specific transcriptional response via a PPRE in the lipoprotein lipase gene. *EMBO J.* **15**:5336-5348.

- Schrijvers, D.M., De Meyer, G.R., Kockx, M.M., Herman, A.G., Martinet, W. (2005). Phagocytosis of apoptotic cells by macrophages is impaired in 1135 atherosclerosis. *Arterioscler. Thromb. Vasc. Biol.* **25**:1256–61.
- Scott, R. E., Florine, D. L., Wille, J. J., Yun, K. (1982). Coupling of growth arrest and differentiation at a distinct state in the G₁ phase of the cell cycle: G_D. *Proc. Natl. Acad. Sci. U.S.A* **79**:845-849.
- Shah, A., Mehta, N., Reilly, M.P. (2008). Adipose Inflammation, Insulin Resistance, and Cardiovascular Disease. *J. Parent. Enteral Nutri.* **32**: 638-644.
- Sharma, D.C. New Delhi, April 12, 2010. Updated **08:27 IST** India's no.1 killer: Heart disease.
<http://indiatoday.intoday.in/site/story/India's+no.1+killer:+Heart+disease/1/92422.html>
- Sharma, H.K., Chhangte, L., Dolui, A.K. (2001). Traditional medicinal plants in Mizoram, India. *Fitoterapia*, **72**: 146-161.
- Sharma, S.B., Dwivedi, S. (1997). Medicinal plants with hypolipidaemic activities, *Indian Drugs* **34**(5): 242–251.
- Sheehan, D., Hrapchak, B. (1979). Theory and Practice of Histotechnology, second edition, Battelle Press, Ohil, pp 226-227.
- Shiva, M.P. *Inventory of Forestry Resources for Sustainable Management and Biodiversity Conservation*. New Delhi: Indus Publishing Company; 1996.
- Silva J. P., Sardao, V. A., Coutinho, O.P., Oliveira, P. J. (2010). Nitrogen Compounds Prevent H9c2 Myoblast Oxidative Stress-Induced Mitochondrial Dysfunction and Cell Death. *Cardiovasc Toxicol.* **10**: 51–65.
- Simone, de., Addeo, G. D. (2008). Sibutramine: balancing weight loss benefit and possible cardiovascular risk, *Nutr. Metab. Cardiovasc. Dis.* **18** : 337–341.
- Sinha, K. 'India in grip of obesity epidemic'. www.timesofindia.com. TNN Nov 12, 2010, 03.43am IST

- Smith, P. J., Wise, L. S., Berkowitz, R., Wan, C., Rubin, C. S. (1988). Insulin-like growth factor-I is an essential regulator of the differentiation of 3T3-L1 adipocytes. *J. Biol. Chem.* **263**:9402-9408.
- Song ,H.Y., Rho, M.C., Lee, S.W., Kwon, O.E., Chang, Y.D., Lee, H.S., Kim,Y.K. (2002). Isolation of Acyl-CoA:cholesterol acyltransferase inhibitor from *Persicaria vulgaris*. *Planta med.* **68**(9): 845-847.
- Speer, M.Y., Giachelli, C.M. (2004). Regulation of cardiovascular calcification. *Cardiovas. Pathol.* **13**: 63–70.
- Stachura, M., Pierzynowski, S.G. (2009). Atherosclerosis and mitochondrial dysfunction – possible links. *J Pre-Clin.Clin. Res.* **3**: 091-094.
- Steane, D.A., De, Kok, R.P.J., Olmstead, R.G. (2004) Phylogenetic relationships between *Clerodendrum* (Lamiaceae) and other Ajugoid genera inferred from nuclear and chloroplast DNA sequence data. *Mol.Phylo.Evo.* **32**: 39-45.
- Steinberg, D. (1997). Low density lipoprotein oxidation and its pathobiological significance. *J. Biol. Chem.* **272**: 20963-20966.
- Steinberg, D., Parthasarathy, S., Carew, T.E., Khoo, J.C, Witztum, J.L. (1989). Beyond cholesterol. Modifications of low-density lipoprotein that increase its atherogenicity. *N .Engl. J. Med.* **320**:915-924.
- Stoneman, V.E.A., Bennett, M.R. (2004). Apoptosis in atherosclerosis: beneficial or detrimental? *Clin Sci.* **107**: 343–354.
- Student, A. K., Hsu, R. Y., Lane, M. D. (1980). Induction of fatty acid synthetase synthesis in differentiating 3T3-L1 preadipocytes. *J. Biol. Chem.* **255**:4745-4750.
- Sturgeon, R.J., Deamer, R.L., Harbison, H.A. (1979). Improved spectrophotometric determination of glycerol and its comparison with an enzymatic method. *J. Pharma. Sci.* **68**: 1064-1066.
- Sturm, R. (2007). "Increases in morbid obesity in the USA: 2000–2005". *Public Health* **121** (7): 492–6.

- Subramaniam, S., Subramaniam, R., Rajapandian, S., Uthrapathi, S., Gnanamanickam, V.R., Dubey, G.P. (2011). Anti-atherogenic activity of ethanolic fraction of *Terminalia arjuna* bark on hypercholesterolemic rabbits. *Evid. Based. Complement. Alternat. Med.* 2011; 2011: 487916.
- Sung, M., Kim, I., Park, M., Whang, Y., Lee, M. (2004). Differential effects of dietary fatty acids on the regulation of CYP2E1 and protein kinase C in human hepatoma HepG2 cells. *J. Med. Food.* 7:197-203.
- Surwit, R., Petro, A., Parekh, P., et al. (1997). Low plasma leptin in response to dietary fat in diabetes- and obesity-prone mice. *Diabetes* 46:1516–1520.
- Surwit, R.S., Feinglos, M.N., Rodin, J, et al. (1995). Differential effects of fat and sucrose on the development of obesity and diabetes in C57BL/6J and A/J mice. *Metabolism* 44:645– 51.
- Surwit, R.S., Kuhn, C.M., Cochrane, C., et al. (1988). Diet-induced type II diabetes in C57BL/6J mice. *Diabetes.* 37:1163– 7.
- Tabas, I. (2005). Consequences and therapeutic implications of macrophage apoptosis in atherosclerosis: the importance of lesion stage and phagocytic efficiency. *Arterioscler. Thromb. Vasc. Biol.* 25: 2255-2264.
- Tabas, I. (2010). Macrophage death and defective inflammation resolution in atherosclerosis. *Nature Rev. Immunol.* 10:36–46.
- Tahan, V., Eren, F., Avsar, E., Yavuz, D., Yuksel, M., Emekli, E., Imeryuz, N., Celikel, C., Uzun, H., Haklar, G., Tozun, N. (2007). Rosiglitazone Attenuates Liver Inflammation in a Rat Model of Nonalcoholic Steatohepatitis. *Dig. Dis. Sci.* 52:3465–3472.
- Tang, F., Wu, X., Wang, T., Wang, P., Li, R., Zhang, H., Gao, J., Chen, S., Bao, L., Huang, H., Liu, P. (2007). Tanshinone II A attenuates atherosclerotic calcification in rat model by inhibition of oxidative stress. *Vasc. Pharmacol.* 46: 427–438.
- Tang, F.T., Chen, S.R., Wu, X.Q., Wang, T.Q., Chen, J.W., Li, J., Bao, L.P., Huang, H.Q., Liu, P.Q. (2006). Hypercholesterolemia accelerates vascular calcification

- induced by excessive vitamin D via oxidative stress. *Calcif Tissue Int.* **79**(5):326-39.
- Targher, G., Bertolini, L., Rodella, S., et al. (2006). Associations between plasma adiponectin concentrations and liver histology in patients with nonalcoholic fatty liver disease. *Clin. Endocrinol.* **64**:679–683.
- Third National Family Health Survey*. Mumbai: International Institute for Population Sciences. 2006. http://nfhsindia.org/nfhs3_national_report.html.
- Thounaojam, M.C., Jadeja, R.N., Dandekar, D.S., Devkar, R.V., Ramachandran A.V. (2010). *Sida rhomboidea* Roxb extract alleviates pathophysiological changes in experimental *in vivo* and *in vitro* models of high fat diet/fatty acid induced non-alcoholic steatohepatitis. *Exp. Tox. Path.* DOI: 10.1016/j.etp.2010.08.009.
- Thurairajah, P.H., Syn, W.K., Neil, D.A., Stell D., Haydon G. (2005). Orlistat (xenical)-induced subacute liver failure, *Eur. J. Gastroenterol. Hepatol.* **17** : 1437–1438.
- Tripathi, K.D. (1995). “Essentials of Medical Pharmacology”, 3rd edition. Jaypee Brothers Medical Publishers Ltd., New Delhi, India.
- Tripathi, K.D. Essentials of Medical pharmacology, 6th edition 2008, JP brothers medical publishers, pp.613-614.
- Tsuchiya, S.G. (2006). Pathphysiology of NASH: Insulin resistance, free fatty acids and oxidative stress. *J.Clin. Biochem. Nutr.* **38**:127-132.
- Tsujita, Y., Kuroda, M., Shimada, Y., Tanzawa, K., Arai, M., Kaneko, I., Tanaka, M., Masuda, H., Tarumi, C., Watanabe, Y., et al. (1986). CS-514, a competitive inhibitor of 3-hydroxy-3-methylglutaryl coenzyme A reductase: tissueselective inhibition of sterol synthesis and hypolipidemic effect on various animal species. *Biochim. Biophys. Acta.* **877**: 50-60
- Tziomalos, K., Krassas G.E., Tzotzas, T. (2009). The use of sibutramine in the management of obesity and related disorders: an update, *Vasc. Health Risk Manag.* **5**: 441–452.

- Uusitupa, M.I., Niskanen, L., Luoma, J., Vilja, P., Mercuri, M., Rauramaa, R., Ylä-Herttuala, S. (1996). Auto antibodies against oxidized LDL do not predict atherosclerotic vascular disease in non-insulin-dependent diabetes mellitus. *Arterio. Thrombo. Vas. Biol.* **16**: 1236-1242.
- Velayudham, A., Dolganiuc, A., Ellis, M., Petrasek, J., Kodys, K., Mandrekar, P., Szabo, G. (2009). VSL#3 probiotic treatment attenuates fibrosis without changes in steatohepatitis in a diet-induced nonalcoholic steatohepatitis model in mice. *Hepatology*. **49**:989-997.
- Vendemiale, G., Grattagliano, I., Caraceni, P., et al. (2001). Mitochondrial oxidative injury and energy metabolism alteration in rat fatty liver: effect of the nutritional status. *Hepatology*. **33**:808–815.
- Wang, G., Liu, X., Christoffel, K.K., Zhang, S., Wang, B., Liu, R., Li, Z., Liu, X., Brickman, W.L., Zimmerman, D., Xu, X., Wang, X. (2010). Prediabetes is not all about obesity: association between plasma leptin and prediabetes in lean rural Chinese adults. *European J. Endocrinol.* **163**: 243-249.
- Wang, H.X., Ng,T.B. (1999). Natural product with hypoglycemic, hypotensive, hypocholesterolemic, and antithrombotic activities. *Life Sci.* **65**: 2663–2677.
- Watanabe, T., Hata, K., Hiwatashi, K., Hori, K., Suzuki, N., Itoh, H. (2010). Suppression of murine preadipocyte differentiation and reduction of visceral fat accumulation by a *Petasites japonicus* ethanol extract in mice fed a high-fat diet. *Biosci. Biotech. Biochem.* **74**: 499-503.
- Way, J.M., Harrington, W.W., Brown, K.K., Gottschalk, W.K., Sundseth, S.S., Mansfield, T.A., Ramachandran, R.K., Willson, T.M., Kliewer, S.A. (2001). Comprehensive messenger ribonucleic acid profiling reveals that peroxisome proliferator-activated receptor gamma activation has coordinate effects on gene expression in multiple insulin-sensitive tissues. *Endocrinology* **142**: 1269-1277.
- West, D.B., Boozer, C.N., Moody, D.L., et al. (1992). Dietary obesity in nine inbred mouse strains. *Am. J. Physiol.* **262**:R1025– 32.

- Whitlock, G., Lewington, S., Sherliker, P., *et al.* (2009). "Body-mass index and cause-specific mortality in 900 000 adults: collaborative analyses of 57 prospective studies". *Lancet* **373** (9669): 1083–96.
- WHO (1996). Guidelines for the assessment of herbal medicines. WHO expert committee on specification for pharmaceutical preparations. Technical report series no. 863. Geneva. (accessed on 12.01.2011)
- WHO (2003). Obesity and overweight. Global Strategy on Diet, Physical Activity and Health, geneva, 2003.
- WHO. (2009). Obesity and overweight". Retrieved April 8, 2009.
- WHO. Physical Inactivity: A Global Public Health Problem. *World Health Organization*. Retrieved February 22, 2009.
- Wilson, P.W., Abbott, R.D., Castelli, W.P. (1988). High density lipoprotein cholesterol and mortality. The Framingham Heart Study. *Atherosclerosis* **8**(6): 737-41.
- Wilson, P.W.F. (1990). High density lipoprotein, low density lipoprotein and coronary heart disease. *Am. J. Cardiol.* **66**: 7A– 10A .
- Wise, L.S., Green, H. (1979). Participation of one isozyme of cytosolic glycerophosphate dehydrogenase in the adipose conversion of 3T3 cells. *J. Biol. Chem.* **254**: 273-275.
- World Health Organization. (2008). Traditional medicine <http://www.who.int/mediacentre/factsheets/fs134/en/>, (last accessed on 22nd March 2011).
- World Health Organization. Guidelines for the Regulation of Herbal Medicines in the South-East Asia Region: Developed at the Regional Workshop on the Regulation of Herbal Medicines, Bangkok, and 24–26 June 2003. New Delhi: Regional office for South East Asia, World Health Organization; 2003.
- Wu, C.H., Yang, M.Y., Chan, K.C., Chung, P.J., Ou, T.T., Wang, C.J. (2010). Improvement in high-fat diet-induced obesity and body fat accumulation by a *Nelumbo nucifera* leaf flavonoid-rich extract in mice. *J. Agric. Food Chem.* **58**(11):7075-81.

- Wu, Y., Li, J., Wang, J., Si, Q., Zhanga, J., Jiangd, Y., Chua, L. (2009). Anti-atherogenic effects of centipede acidic protein in rats fed an atherogenic diet. *J. Ethnopharmacol.* **122**: 509-516.
- Xu, A., Wang, Y., Keshaw, H., Xu, L.Y., Lam, K.S., Cooper, G.J. (2003). The fat-derived hormone adiponectin alleviates alcoholic and nonalcoholic fatty liver diseases in mice. *J. Clin. Invest.* **112**:91-100.
- Yamamoto, N., Kanemoto, Y., Ueda, M., Kawasaki, K., Fukuda, I., Ashida, H. (2011). Anti-obesity and anti-diabetic effects of ethanol extract of *Artemisia princeps* in C57BL/6 mice fed a high-fat diet. *Food Func.* **2**: 45-52
- Yamauchi, T., Kamon, J., Minokoshi, Y., et al. (2002). Adiponectin stimulates glucose utilization and fatty-acid oxidation by activating AMP-activated protein kinase. *Nat. Med.* **8**:1288-1295.
- Yen, G., Hsieh, C. (1998). Antioxidant activity of extracts from Du-zhong (*Eucommia ulmoides*) toward various lipid peroxidation models *in vitro*. *J. Agri. Food Chem.* **46**: 3952-3957.
- Yla-Herttuala, S., Palinski, W., Rosenfeld, M.E., Parthasarathy, S., Carew, T.E., Butler, S., Witztum, J.L., Steinberg, D. (1989). Evidence for the presence of oxidatively modified low density lipoprotein in atherosclerotic lesions of rabbit and man. *J. Clin. Invest.* **84**:1086-95.
- Yla-Herttuala, S., Palinski, W., Butler, S.W., Picard, S., Steinberg, D., Witztum, J.L. (1994). Rabbit and human atherosclerotic lesions containing that recognizes epitopes of oxidized LDL. *Arterioscler Thromb.* **14**:32-40
- Yoshioka, S., Hamada, A., Jobu, K., Yokota, J., Onogawa, M., Kyotani, S., Miyamura, M., Saibara, T., Onishi, S., Nishioka, Y. (2010). Effects of *Eriobotrya japonica* seed extract on oxidative stress in rats with non-alcoholic steatohepatitis. *J. Pharm. pharmacol.* **58**: 1391-1398.
- Young, I.S., McEneny, J. (2001). Lipoprotein oxidation and atherosclerosis. *Biochem. Soc. Trans.* **29**,358-362.

- Zhang, Z., Li, D.S., Blanchard, D.E., Lear, S.R., Erickson, S.K., Spencer, T.A. (2001). Key regulatory oxysterols in liver: analysis as Δ^4 -3-ketone derivatives by HPLC and response to physiological perturbations. *J. Lipid Res.* **42**: 649-658.
- Zheng, S., Qian, Z., Tang, F., Sheng, L.(2005). Suppression of vascular cell adhesion molecule-1 expression by crocetin contributes to attenuation of atherosclerosis in hypercholesterolemic rabbits. *Biochem. Pharmacol.* **70**: 1192–1199.