

Literaturverzeichnis

- [1] Abuja PM. When might an antioxidant become a prooxidant? *Acta Anaesthesiol Scand.* 1998;42 (Suppl. 112):229-30.
- [2] Ademoglu E, Erbil Y, Tam B et al. Do vitamin E and selenium have beneficial effects on trinitrobenzenesulfonic acid-induced experimental colitis. *Dig Dis Sci.* 2004;49(1):102-8.
- [3] Aebischer CP, Schierle J, Schüep W. Simultaneous determination of retinol, tocopherols, carotene, lycopene, and xanthophylls in plasma by means of reversed-phase high performance liquid chromatography. *Methods Enzymol.* 1999;299:348-62.
- [4] Aghdassi E, Wendland BE, Steinhart AH et al. Antioxidant vitamin supplementation in Crohn's disease decreases oxidative stress. a randomized controlled trial. *Am J Gastroenterol.* 2003;98(2):348-53.
- [5] Ahmed S, Leo MA, Lieber CS. Interactions between alcohol and beta-carotene in patients with alcoholic liver disease. *Am J Clin Nutr.* 1994;60(3):430-6.
- [6] Al-Jaouni R, Hebuterne X, Pouget I, Rampal P. Energy metabolism and substrate oxidation in patients with Crohn's disease. *Nutrition.* 2000;16(3):173-8.
- [7] Almallah YZ, Richardson S, O'Hanrahan T et al. Distal procto-colitis, natural cytotoxicity, and essential fatty acids. *Am J Gastroenterol.* 1998;93(5):804-9.
- [8] Arthur JR, McKenzie RC, Beckett GJ. Selenium in the immune system. *J Nutr.* 2003;133 (5 Suppl. 1):1457S-9S. Review.
- [9] Aw TY. Determinants of intestinal detoxication of lipid hydroperoxides. *Free Radic Res.* 1998;28(6):637-46. Review.
- [10] Barbosa DS, Cecchini R, El Kadri MZ et al. Decreased oxidative stress in patients with ulcerative colitis supplemented with fish oil omega-3 fatty acids. *Nutrition.* 2003;19(10):837-42.
- [11] Barbosa-Silva MCG, Barros AJD. Bioelectrical impedance analysis in clinical practice: a new perspective on its use beyond body composition equations. *Curr Opin Clin Nutr Metab Care.* 2005a; 8:311-7.

- [12] Barbosa-Silva MCG, Barros AJ, Wang J, Heymsfield SB, Pierson RN Jr. Bioelectrical impedance analysis: population reference values for phase angle by age and sex. *Am J Clin Nutr*. 2005b;82:49-52.
- [13] Belluzzi A, Boschi S, Brignola C et al. Polyunsaturated fatty acids and inflammatory bowel disease. *Am J Clin Nutr*. 2000;71(1 Suppl.):339S-42S. Review.
- [14] Belluzzi A, Brignola C, Campieri M et al. Short report: zinc sulphate supplementation corrects abnormal erythrocyte membrane long-chain fatty acid composition in patients with Crohn's disease. *Aliment Pharmacol Ther*. 1994;8(1):127-30.
- [15] Berger MM. Can oxidative damage be treated nutritionally? *Clin Nutr*. 2005;24(2):172-183. Review.
- [16] Best WR, Beckett JM, Singleton JW, Kern F Jr. Development of a Crohn's disease activity index. National Cooperative Crohn's Disease Study. *Gastroenterology*. 1976;70:439-44.
- [17] Best WR, Beckett JM, Singleton JW. Rederived values of the eight coefficients of the Crohn's Disease Activity Index (CDAI). *Gastroenterology*. 1979;77:843-6.
- [18] Bhaskar L, Ramakrishna BS, Balasubramanian KA et al. Colonic mucosal antioxidant enzymes and lipid peroxide levels in normal subjects and patients with ulcerative colitis. *J Gastroenterol Hepatol*. 1995;10(2):140-3.
- [19] Bjarnason I, MacPherson A, Hollander D. Intestinal permeability: an overview. *Gastroenterology*. 1995;108:1566-81
- [20] Brignola C, Belloli C, De Simone G et al. Zinc supplementation restores plasma concentrations of zinc and thymulin in patients with Crohn's disease. *Aliment Pharmacol Ther*. 1993;7(3):275-80.
- [21] Bruno RS, Traber MG. Cigarette smoke alters human vitamin E requirements. *J Nutr*. 2005;135(4):671-4. Review.
- [22] Buffinton GD, Doe WF. Depleted mucosal antioxidant defences in inflammatory bowel disease. *Free Radic Biol Med*. 1995;19(6):911-8.
- [23] Burdge G. Alpha-linolenic acid metabolism in men and women: nutritional and biological implications. *Curr Opin Clin Nutr Metab Care*. 2004;7(2):137-44. Review.
- [24] Cabré E, Periago JL, Mingorance MD et al. Factors related to the plasma fatty acid profile in healthy subjects with special reference to antioxidant micronutrient status: a multivariate analysis. *Am J Clin Nutr*. 1992;55(4):831-7.

- [25] Cabre E, Gassull MA. Nutritional and metabolic issues in inflammatory bowel disease. *Curr Opin Clin Nutr Metab Care*. 2003;6(5):569-76. Review.
- [26] Cabré E, Gassull MA. Nutrition in inflammatory bowel disease. *Curr Opin Clin Nutr Metab Care*. 2001;4(6):561-9. Review.
- [27] Calder PC. Polyunsaturated fatty acids, inflammation, and immunity. *Lipids*. 2001;36(9):1007-24. Review.
- [28] Caughey GE, Mantzioris E, Gibson RA, Cleland LG, James MJ. The effect on human tumor necrosis factor alpha and interleukin 1 beta production of diets enriched in n-3 fatty acids from vegetable oil or fish oil. *Am J Clin Nutr*. 1996;63(1):116-22.
- [29] Chambrier C, Garcia I, Bannier E, Gerard-Boncompain M, Bouletreau P. Specific changes in n-6 fatty acid metabolism in patients with chronic intestinal failure. *Clin Nutr*. 2002;21(1):67-72.
- [30] Chan AT, Fleming CR, O'Fallon WM, Huizenga KA. Estimated versus measured basal energy requirements in patients with Crohn's disease. *Gastroenterology*. 1986;91(1):75-8.
- [31] Chen JJ, Bertrand H, Yu BP. Inhibition of adenine nucleotide translocator by lipid peroxidation products. *Free Radic Biol Med*. 1995;19(5):583-90.
- [32] Chiarpotto E, Scavazza A, Leonarduzzi G et al. Oxidative damage and transforming growth factor beta 1 expression in pretumoral and tumoral lesions of human intestine. *Free Radic Biol Med*. 1997;22(5):889-94.
- [33] Christie PM, Hill GL. Return to normal body composition after ileoanal J-pouch anastomosis for ulcerative colitis. *Dis Colon Rectum*. 1990;33(7):584-6.
- [34] Chrousos GP. The hypothalamic-pituitary-adrenal axis and immune-mediated inflammation. *N Engl J Med*. 1995;332(20):1351-62. Review.
- [35] Chu FF, Esworthy RS, Doroshov JH. Role of Se-dependent glutathione peroxidases in gastrointestinal inflammation and cancer. *Free Radic Biol Med*. 2004;36(12):1481-95. Review.
- [36] Clejan S, Castro-Magana M, Collipp PJ, Jonas E, Maddaiah VT. Effects of zinc deficiency and castration on fatty acid composition and desaturation in rats. *Lipids*. 1982;17(3):129-35.
- [37] Crohn BB, Ginzburg L, Oppenheimer GD. Regional ileitis: a pathologic and clinical entity. 1932. *Mt Sinai J Med*. 2000;67(3):263-8.
- [38] D'Odorico A, Bortolan S, Cardin R et al. Reduced plasma antioxidant concentrations and increased oxidative DNA damage in inflammatory bowel disease. *Scand J Gastroenterol*. 2001;36(12):1289-94.

- [39] Dalekos GN, Ringstad J, Savaidis I, Seferiadis KI, Tsianos EV. Zinc, copper and immunological markers in the circulation of well nourished patients with ulcerative colitis. *Eur J Gastroenterol Hepatol.* 1998;10(4):331-7.
- [40] Detsky AS, McLaughlin JR, Baker JP et al. What is subjective global assessment of nutritional status? *JPEN.* 1987;11:8-13.
- [41] Deutsche Gesellschaft für Ernährung e.V. (DGE). Ernährungsbericht 2000.
- [42] Devaraj S, Jialal I. Failure of vitamin E in clinical trials: is gamma-tocopherol the answer? *Nutr Rev.* 2005;63(8):290-3. Review.
- [43] Dignass A, Herrlinger K, Schölmerich. Remissionserhaltung. *Z Gastroenterol.* 2004;42:1011-4.
- [44] Dryden GW Jr, Deaciuc I, Arteel G, McClain CJ. Clinical implications of oxidative stress and antioxidant therapy. *Curr Gastroenterol Rep.* 2005;7(4):308-16. Review.
- [45] Durak I, Yasa MH, Bektas A et al. Mucosal antioxidant defense is not impaired in ulcerative colitis. *Hepatogastroenterology.* 2000;47(34):1015-7.
- [46] Erlinger TP, Guallar E, Miller ER 3rd et al. Relationship between systemic markers of inflammation and serum beta-carotene levels. *Arch Intern Med.* 2001;161(15):1903-8.
- [47] Esteve-Comas M, Nunez MC, Fernandez-Banares F et al. Abnormal plasma poly unsaturated fatty acid pattern in non-active inflammatory bowel disease. *Gut.* 1993;34(10):1370-3.
- [48] Esteve-Comas M, Ramirez M, Fernandez-Banares F et al. Plasma poly unsaturated fatty acid pattern in inactive inflammatory bowel disease. *Gut.* 1992;33(10):1365-9.
- [49] Faubion WA, Loftus EV Jr, Harmsen WS, Zinsmeister AR, Sandborn WJ. The natural history of corticosteroid therapy for inflammatory bowel disease: a population-based study. *Gastroenterol.* 2001;121:255-60.
- [50] Fernandez-Banares F, Abad-Lacruz A, Xiol X et al. Vitamin status in patients with inflammatory bowel disease. *Am J Gastroenterol.* 1989;84(7):744-8.
- [51] Fernandez-Banares F, Mingorance MD, Esteve M et al. Serum zinc, copper, and selenium levels in inflammatory bowel disease: effect of total enteral nutrition on trace element status. *Am J Gastroenterol.* 1990;85(12):1584-9.
- [52] Filippi J, Al-Jaouni R, Wiroth JB, Hebuterne X, Schneider SM. Nutritional deficiencies in patients with Crohn's disease in remission. *Inflamm Bowel Dis.* 2006;12(3):185-91.
- [53] Fiocchi C. Intestinal inflammation: a complex interplay of immune and nonimmune cell interactions. *Am J Physiol.* 1997;273(4 Pt1):G769-75. Review.

- [54] Fleig WE. Remissionserhaltung. *Zeitschr Gastroenterol.* 2003; 41(1):36-43.
- [55] Fleming CR, Huizenga KA, McCall JT, Gildea J, Dennis R. Zinc nutrition in Crohn's disease. *Dig Dis Sci.* 1981;26(10):865-70.
- [56] Gassull MA, Cabre E. Nutrition in inflammatory bowel disease. *Curr Opin Clin Nutr Metab Care.* 2001;4(6):561-9. Review.
- [57] Gassull MA. Nutrition and inflammatory bowel disease: its relation to pathophysiology, outcome and therapy. *Dig Dis.* 2003;21(3):220-7. Review.
- [58] Geerling BJ, Badart-Smook A, van Deursen C et al. Nutritional supplementation with n-3 fatty acids and antioxidants in patients with Crohn's disease in remission: effects on antioxidant status and fatty acid profile. *Inflamm Bowel Dis.* 2000;6(2):77-84.
- [59] Geerling BJ, v Houwelingen AC, Badart-Smook A et al. Fat intake and fatty acid profile in plasma phospholipids and adipose tissue in patients with Crohn's disease, compared with controls. *Am J Gastroenterol.* 1999;94(2):410-7.
- [60] Geerling BJ, v Houwelingen AC, Badart-Smook A, Stockbrugger RW, Brummer RJ. The relation between antioxidant status and alterations in fatty acid profile in patients with Crohn disease and controls. *Scand J Gastroenterol.* 1999;34(11):1108-16.
- [61] Geerling BJ, Badart-Smook A, Stockbrugger RW, Brummer RJ. Comprehensive nutritional status in patients with long-standing Crohn's disease currently in remission. *Am J Clin Nutr.* 1998;67(5):919-926.
- [62] Geerling BJ, Stockbrügger RW, Brummer RJM. Nutrition and inflammatory bowel disease: an update. *Scand J Gastroenterol.* 1999;34 Suppl 230:95-105.
- [63] Genser D, Kang MH, Vogelsang H, Elmadf I. Status of lipid soluble antioxidants and TRAP in patients with Crohn's disease and healthy controls. *Eur J Clin Nutr.* 1999;53(9):675-9.
- [64] Gil A. Polyunsaturated fatty acids and inflammatory diseases. *Biomed Pharmacother.* 2002;56(8):388-96. Review.
- [65] Goh J, O'Morain CA. Review article: nutrition and adult inflammatory bowel disease. *Aliment Pharmacol Ther.* 2003;17(3):307-20. Review.
- [66] Greenfield SM, Green AT, Teare JP et al. A randomized controlled study of evening primrose oil and fish oil in ulcerative colitis. *Aliment Pharmacol Ther.* 1993;7(2):159-66.
- [67] Grimble RF. Dietary lipids and the inflammatory response. *Proc Nutr Soc.* 1998;57(4):535-42. Review.

- [68] Grisham MB, Yamada T. Neutrophils, nitrogen oxides, and inflammatory bowel disease. *Ann NY Acad Sci.* 1992;664:103-15. Review.
- [69] Grisham MB. Oxidants and free radicals in inflammatory bowel disease. *Lancet.* 1994;344(8926):859-61. Review.
- [70] Halliwell B. Free radicals, antioxidants, and human disease: curiosity, cause, or consequence? *Lancet.* 1994;344(8924):721-4. Review.
- [71] Han PD, Burke A, Baldassano RN, Rombeau JL, Lichtenstein GR. Nutrition and inflammatory bowel disease. *Gastroenterol Clin North Am.* 1999;28(2):423-43, ix. Review.
- [72] Häuser W, Dietz N, Grandt D, Steder-Neukamm U et al. Validation of the inflammatory bowel disease questionnaire IBDQ-D, German version, for patients with ileal pouch anastomosis for ulcerative colitis. *Z Gastroenterol.* 2004;42:131-9.
- [73] Hawthorne AB, Daneshmend TK, Hawkey CJ et al. Treatment of ulcerative colitis with fish oil supplementation: a prospective 12 month randomised controlled trial. *Gut.* 1992;33(7):922-8.
- [74] Heber D, Lu QY. Overview of mechanisms of action of lycopene. *Exp Biol Med (Maywood).* 2002;227(10):920-3. Review.
- [75] Hendricks KM, Walker WA. Zinc deficiency in inflammatory bowel disease. *Nutr Rev.* 1988;46(12):401-8. Review.
- [76] Heymsfield SB, McManus C, Smith J, Stevens V, Nixon DW. Anthropometric measurement of muscle-mass: revised equations for calculation bone-free arm muscle area. *Am J Clin Nutr.* 1982;36:680-90.
- [77] Hinks LJ, Inwards KD, Lloyd B, Clayton B. Reduced concentrations of selenium in mild Crohn's disease. *J Clin Pathol.* 1988;41(2):198-201.
- [78] Hoffenberg EJ, Deutsch J, Smith S, Sokol RJ. Circulating antioxidant concentrations in children with inflammatory bowel disease. *Am J Clin Nutr.* 1997;65(5):1482-8.
- [79] Hoffmann JC, Zeitz M. Chronisch-aktiver Morbus Crohn. *Zeitschr Gastroenterol.* 2003; 41(1):31-6
- [80] Hoffmann J et al. Diagnostik und Therapie der Colitis ulcerosa: Ergebnisse einer evidenzbasierten Konsensuskonferenz der Deutschen Gesellschaft für Verdauungs- und Stoffwechselerkrankungen zusammen mit dem Kompetenznetz chronisch entzündliche Darmerkrankungen. *Z Gastroenterol.* 2004;42:979-83.

- [81] Hogg N, Kalyanaraman B. Nitric oxide and lipid peroxidation. *Biochim Biophys Acta*. 1999;1411(2-3):378-84. Review.
- [82] Imes S, Pinchbeck B, Dinwoodie A, Walker K, Thomson AB. Vitamin A status in 137 patients with Crohn's disease. *Digestion*. 1987;37(3):166-70.
- [83] Innis SM, Pinski V, Jacobson K. Dietary lipids and intestinal inflammatory disease. *J Pediatr*. 2006;149(3 Suppl):S89-96.
- [84] Irvine EJ, Feagan B, Rochon J et al. Quality of life: a valid and reliable measure of therapeutic efficacy in the treatment of inflammatory bowel disease. Canadian Crohn's Relapse Prevention Trial Study Group. *Gastroenterology*. 1994;106(2):287-96.
- [85] Irvine EJ, Feagan BG, Wong CJ. Does self-administration of a quality of life index for inflammatory bowel disease change the results? *J Clin Epidemiol*. 1996;49:1177-85.
- [86] James MJ, Gibson RA, Cleland LG. Dietary polyunsaturated fatty acids and inflammatory mediator production. *Am J Clin Nutr*. 2000;71(1 Suppl):343S-8S. Review.
- [87] Janczewska I, Bartnik W, Butruk E et al. Metabolism of vitamin A in inflammatory bowel disease. *Hepatogastroenterology*. 1991;38(5):391-5.
- [88] Jeejeebhoy KN, Detsky AS, Baker JP. Assessment of nutritional status. *JPEN J Parenter Enteral Nutr*. 1990;14(5 Suppl):193S-6S. Review.
- [89] Jolly CA, Jiang YH, Chapkin RS, McMurray DN. Dietary (n-3) polyunsaturated fatty acids suppress murine lymphoproliferation, interleukin-2 secretion, and the formation of diacylglycerol and ceramide. *J Nutr*. 1997;127(1):37-43.
- [90] Jourdain D, Vaananen P, Meddings JB. Lipid peroxidation of the brush-border membrane: membrane physical properties and glucose transport. *Am J Physiol*. 1993;264(6 Pt 1):G1009-15.
- [91] Kelly DG, Fleming CR. Nutritional considerations in inflammatory bowel diseases. *Gastroenterol Clin North Am*. 1995;24(3):597-611. Review.
- [92] Keshavarzian A, Sedghi S, Kanofsky J, List T, Robinson C, Ibrahim C, Winship D. Excessive production of reactive oxygen metabolites by inflamed colon: analysis by chemiluminescence probe. *Gastroenterology*. 1992;103(1):177-85.
- [93] Khoschrorur GA, Winklhofer-Roob BM, Rabl H, Auer T, Peng Z, Schaur RJ. Evaluation of a sensitive HPLC method for the determination of malondialdehyde, and application of the method to different biological materials. *Chromatographia* 2000;52:181-4.

- [94] Kinsella JE, Lokesh B, Broughton S, Whelan J. Dietary polyunsaturated fatty acids and eicosanoids: potential effects on the modulation of inflammatory and immune cells: an overview. *Nutrition*.1990;6(1):24-44.
- [95] Kirsner JB. Inflammatory bowel disease. *Am J Gastroenterol*. 1978;69:253-71.
- [96] Kitahora T, Suzuki K, Asakura H et al. Active oxygen species generated by monocytes and polymorphonuclear cells in Crohn's disease. *Dig Dis Sci*. 1988;33(8):951-5.
- [97] Klein S, Meyers S, O'Sullivan P et al. The metabolic impact of active ulcerative colitis. Energy expenditure and nitrogen balance. *J Clin Gastroenterol* 1998;10(1):134-40.
- [98] Kritchevsky SB. beta-Carotene, carotenoids and the prevention of coronary heart disease. *J Nutr*. 1999;129(1):5-8. Review.
- [99] Krok KL, Lichtenstein GR. Nutrition in Crohn disease. *Curr Opin Gastroenterol*. 2003;19(2):148-53.
- [100] Kruidenier L, Kuiper I, Lamers CB, Verspaget HW. Intestinal oxidative damage in inflammatory bowel disease: semi-quantification, localization, and association with mucosal antioxidants. *J Pathol*. 2003;201(1):28-36.
- [101] Kruidenier L, Kuiper I, van Duijn W et al. Differential mucosal expression of three superoxide dismutase isoforms in inflammatory bowel disease. *J Pathol*. 2003;201(1):7-16.
- [102] Kruidenier L, Kuiper I, Van Duijn W et al. Imbalanced secondary mucosal antioxidant response in inflammatory bowel disease. *J Pathol*. 2003;201(1):17-27.
- [103] Kruidenier L, Verspaget HW. Review: oxidative stress as a pathogenic factor in inflammatory bowel disease-radicals or ridiculous? *Aliment Pharmacol Ther*. 2002;16(12):1997-2015. Review.
- [104] Kuroki F, Iida M, Matsumoto T et al. Serum n3 polyunsaturated fatty acids are depleted in Crohn's disease. *Dig Dis Sci*. 1997;42(6):1137-41.
- [105] Kuroki F, Iida M, Tominaga M et al. Multiple vitamin status in Crohn's disease. Correlation with disease activity. *Dig Dis Sci*. 1993;38(9):1614-8.
- [106] Kushner RF. Bioelectrical impedance analysis: a review of principles and applications. *J Am Coll Nutr*. 1992;11:199-209.
- [107] Kushner RF, Schoeller DA. Resting and total energy expenditure in patients with inflammatory bowel disease. *Am J Clin Nutr*. 1991;53(1):161-5.

- [108] Kyle UG, Bosaeus I, De Lorenzo AD et al.; Composition of the ESPEN Working Group. Bioelectrical impedance analysis part I: review of principles and methods. *Clin Nutr.* 2004;23:1226-43.
- [109] Kyle UG, Bosaeus I, De Lorenzo AD et al.; ESPEN. Bioelectrical impedance analysis part II: utilization in clinical practice. *Clin Nutr.* 2004; 23:1430-53.
- [110] Lautz HU, Selberg O, Körber J, Bürger M, Müller MJ. Protein-calorie malnutrition in liver cirrhosis. *Clin Investig.*,1992,70:478-86.
- [111] Leonard SW, Bruno RS, Paterson E et al. 5-nitro-gamma-tocopherol increases in human plasma exposed to cigarette smoke in vitro and in vivo. *Free Radic Biol Med.* 2003;35(12):1560-7.
- [112] Levine M, Wang Y, Rumsey SC. Analysis of ascorbic acid and dehydroascorbic acid in biological samples. *Meth Enzymol.* 1999;299:65-76.
- [113] Levy E, Rizwan Y, Thibault L et al. Altered lipid profile, lipoprotein composition, and oxidant and antioxidant status in pediatric Crohn disease. *Am J Clin Nutr.* 2000;71(3):807-15.
- [114] Lichtiger S, Present DH, Kornbluth A et al. Cyclosporine in severe ulcerative colitis refractory to steroid therapy. *N Engl J Med.* 1994;330(26):1841-5.
- [115] Lih-Brody L, Powell SR, Collier KP et al. Increased oxidative stress and decreased antioxidant defenses in mucosa of inflammatory bowel disease. *Dig Dis Sci.* 1996;41(10):2078-86.
- [116] Lochs H, Allison SP, Meier R et al. Introductory to the ESPEN Guidelines on Enteral Nutrition: Terminology, definitions and general topics. *Clin Nutr.* 2006;25(2):180-6.
- [117] Loeschke K, Ueberschaer B, Pietsch A et al. n-3 fatty acids only delay early relapse of ulcerative colitis in remission. *Dig Dis Sci.* 1996;41(10):2087-94.
- [118] Lorenz-Meyer H, Bauer P, Nicolay C et al. Omega-3 fatty acids and low carbohydrate diet for maintenance of remission in Crohn's disease. A randomized controlled multicenter trial. Study Group Members (German Crohn's Disease Study Group). *Scand J Gastroenterol.* 1996;31(8):778-85.
- [119] Lorenz R, Weber PC, Szimnau P et al. Supplementation with n-3 fatty acids from fish oil in chronic inflammatory bowel disease-a randomized, placebo-controlled, double-blind crossover trial. *J Intern Med Suppl.* 1989;731:225-32.
- [120] Luna-Heredia TE, Martin-Pena G, Ruiz-Galiana J. Hand grip dynamometry in healthy adults. *Clin Nutr.* 2005;24(2):250-8.

- [121] Lupo A. Nutrition in general practice in Italy. *Am J Clin Nutr.* 1997;65(6 Suppl):1963S-1966S. Review.
- [122] Lykkesfeldt J, Loft S, Poulsen HE. Determination of ascorbic acid and dehydroascorbic acid in plasma by high-performance liquid chromatography with coulometric detection are they reliable markers of oxidative stress? *Anal Biochem.* 1995;299(2):329-35.
- [123] MacLean CH, Mojica WA, Newberry SJ et al. Systematic review of the effects on n-3 fatty acids in inflammatory bowel disease. *Am J Clin Nutr.* 2006;82:611-9.
- [124] McCall TB, O'Leary D, Bloomfield J, O'Morain CA. Therapeutic potential of fish oil in the treatment of ulcerative colitis. *Aliment Pharmacol Ther.* 1989;3(5):415-24.
- [125] McKenzie SJ, Baker MS, Buffinton GD, Doe WF. Evidence of oxidant-induced injury to epithelial cells during inflammatory bowel disease. *J Clin Invest.* 1996;98(1):136-41.
- [126] Mehran M, Seidman E, Marchand R, Gurbindo C, Levy E. Tumor necrosis factor alpha inhibits lipid and lipoprotein transport by Caco-2 cells. *Am J Physiol.* 1995;269(6Pt 1):G953-60.
- [127] Middleton SJ, Naylor S, Woolner J, Hunter JO. A double-blind, randomized, placebo controlled trial of essential fatty acid supplementation in the maintenance of remission of ulcerative colitis. *Aliment Pharmacol Ther.* 2002;16(6):1131-5.
- [128] Mills SC, Windsor AC, Knight SC. The potential interactions between polyunsaturated fatty acids and colonic inflammatory processes. *Clin Exp Immunol.* 2005;142(2):216-28. Review.
- [129] Mingrone G, Capristo E, Greco AV et al. Elevated diet-induced thermogenesis and lipid oxidation rate in Crohn disease. *Am J Clin Nutr.* 1999;69(2):325-30.
- [130] Miura S, Tsuzuki Y, Hokari R, Ishii H. Modulation of intestinal immune system by dietary fat intake: relevance to Crohn's disease. *J Gastroenterol Hepatol.* 1998;13(12):1183-90. Review.
- [131] Mulder TP, van der Sluis Veer A, Verspaget HW et al. Effect of oral zinc supplementation on metallothionein and superoxide dismutase concentrations in patients with inflammatory bowel disease. *J Gastroenterol Hepatol.* 1994;9(5):472-7.
- [132] Mulder TP, Verspaget HW, Janssens AR et al. Decrease in two intestinal copper/zinc containing proteins with antioxidant function in inflammatory bowel disease. *Gut.* 1991;32(10):1146-50.
- [133] Muskiet FA, Fokkema MR, Schaafsma A, Boersma ER, Crawford MA. Is docosahexaenoic acid (DHA) essential? Lessons from DHA status regulation, our ancient diet, epidemiology and randomized controlled trials. *J Nutr.* 2004;134(1):183-6. Review.

- [134] Neuzil J, Darlow BA, Inder TE et al. Oxidation of parenteral lipid emulsion by ambient and phototherapy lights: potential toxicity of routine parenteral feeding. *J Pediatr.* 1995;126(5 Pt1):785-90.
- [135] Nieto N, Fernandez MI, Torres MI et al. Dietary monounsaturated n-3 and n-6 longchain polyunsaturated fatty acids affect cellular antioxidant defense system in rats with experimental ulcerative colitis induced by trinitrobenzene sulfonic acid. *Dig Dis Sci.* 1998;43(12):2676-87.
- [136] Norman K, Schutz T, Kemps M et al. The Subjective Global Assessment reliably identifies malnutrition-related muscle dysfunction. *Clin Nutr.* 2005;24(1):143-50.
- [137] Patterson RE, White E, Kristal AR, Neuhaus ML, Potter JD. Vitamin supplements and cancer risk: the epidemiologic evidence. *Cancer Causes Control.* 1997;8(5):786-802. Review.
- [138] Pattison DJ, Symmons DP, Lunt M et al. Dietary beta-cryptoxanthin and inflammatory polyarthritis: results from a population-based prospective study. *Am J Clin Nutr.* 2005;82(2):451-5.
- [139] Peterson LD, Jeffery NM, Thies F et al. Eicosapentaenoic and docosahexaenoic acids alter rats pleen leukocyte fatty acid composition and prostaglandin E2 production but have different effects on lymphocyte functions and cell-mediated immunity. *Lipids.* 1998;33(2):171-80.
- [140] Piccoli A et al. Equivalence of information from single versus multiple frequency bioimpedance vectoranalysis in hemodialysis. *Kidney Int.* 2005; 67:301-13.
- [141] Pirlich M et al. DGEM-Leitlinie Enterale Ernährung: Ernährungsstatus. *Aktuel Ernaehr Med.* 2003; 28, Suppl. 1:S10-S25.
- [142] Quasim T, McMillan DC, Talwar D et al. Lower concentrations of carotenoids in the critically ill patient are related to a systemic inflammatory response and increased lipid peroxidation. *Clin Nutr.* 2003;22(5):459-62.
- [143] Rannem T, Ladefoged K, Hylander E, Hegnhøj J, Staun M. Selenium depletion in patients with gastrointestinal diseases: are there any predictive factors? *Scand J Gastroenterol.* 1998;33(10):1057-61.
- [144] Rannem T, Ladefoged K, Hylander E, Hegnhøj J, Jarnum S. Selenium status in patients with Crohn's disease. *Am J Clin Nutr.* 1992;56(5):933-7.
- [145] Reimund JM, Hirth C, Koehl C et al. Antioxidant and immune status in active Crohn's disease. A possible relationship. *Clin Nutr.* 2000;19(1):43-8.

- [146] Rejon F, Martin-Pena G, Granado F et al. Plasma status of retinol, alpha- and gamma tocopherols, and main carotenoids to first myocardial infarction: case control and follow-up study. *Nutrition*. 2002;18(1):26-31.
- [147] Report of a WHO Expert Committee. Physical status: the use and interpretation of anthropometry. WHO 1995, Genf: 854
- [148] Ringstad J, Kildebo S, Thomassen Y. Serum selenium, copper, and zinc concentrations in Crohn's disease and ulcerative colitis. *Scand J Gastroenterol*. 1993;28(7):605-8.
- [149] Royall D, Greenberg GR, Allard JP, Baker JP, Jeejeebhoy KN. Total enteral nutrition support improves body composition of patients with active Crohn's disease. *JPEN J Parenter Enteral Nutr*. 1995;19(2):95-9.
- [150] Sandborn WJ, Feagan BG, Hanauer SB, Lochs H et al. A review of Activity Indices and Efficacy Endpoints for Clinical Trials of Medical Therapy in Adults With Crohns Disease. *Gastroenterology*. 2002;122:512-30.
- [151] Sattler W, Puhl H, Hayn M, Kostner GM, Esterbauer H. Determination of fatty acids in the main lipoprotein classes by capillary gaschromatography: BE3/methanol transesterification of lyophilized samples instead of Folch extraction gives higher yields. *Anal Biochem*. 1991;198(1):184-90.
- [152] Schütz T, Plauth M. Subjective Global Assessment - eine Methode zur Erfassung des Ernährungszustandes. *Aktuel Ernaehr Med*. 2005;30(1):43-8.
- [153] Schütz T, Valentini L, Plauth M. Screening auf Mangelernährung nach den ESPEN-Leitlinien 2002. *Aktuel Ernaehr Med*. 2005;30:99-103.
- [154] Sedghi S, Fields JZ, Klamut M et al. Increased production of luminol enhanced chemiluminescence by the inflamed colonic mucosa in patients with ulcerative colitis. *Gut*. 1993;34(9):1191-7.
- [155] Serfass RE, Ganther HE. Defective microbicidal activity in glutathion eperoxidase-deficient neutrophils of selenium-deficient rats. *Nature*. 1975;255(5510):640-1.
- [156] Shivanada S et al. Incidence of inflammatory bowel disease across Europe: is there a difference between north and south? Results of the European Collaborative Study on Inflammatory Bowel Disease (EC-IBD). *Gut*. 1996;39(5):690-7.
- [157] Shoda R, Matsueda K, Yamato S, Umeda N. Therapeutic efficacy of N-3 polyunsaturated fatty acid in experimental Crohn's disease. *J Gastroenterol*. 1995;30 Suppl 8:98-101.
- [158] Siguel EN, Lerman RH. Prevalence of essential fatty acid deficiency in patients with chronic gastro intestinal disorders. *Metabolism*. 1996;45(1):12-23.

- [159] Silverio Amancio OM, Alves Chaud DM, Yanaguibashi G, Esteves Hilario MO. Copper and zinc intake and serum levels in patients with juvenile rheumatoid arthritis. *Eur J Clin Nutr.* 2003;57(5):706-12.
- [160] Simmonds NJ, Allen RE, Stevens TR et al. Chemiluminescence assay of mucosal reactive oxygen metabolites in inflammatory bowel disease. *Gastroenterology.* 1992;103(1):186-96.
- [161] Simmonds NJ, Rampton DS. Inflammatory bowel disease? a radical view. *Gut.* 1993;34(7):865-8.
- [162] Singh U, Devaraj S, Jialal I. Vitamin E, oxidative stress, and inflammation. *Annu Rev Nutr.* 2005;25:151-74. Review.
- [163] Socha P, Ryzko J, Koletzko B et al. Essential fatty acid depletion in children with inflammatory bowel disease. *Scand J Gastroenterol.* 2005;40(5):573-7.
- [164] Stange EF et al. Diagnostik und Therapie des Morbus Crohn. *Zeitschr Gastroenterol.* 2003;41(1):19-21.
- [165] Stenson WF, Cort D, Rodgers J et al. Dietary supplementation with fish oil in ulcerative colitis. *Ann Intern Med.* 1992;116(8):609-14.
- [166] Stokes MA, Hill GL. Total energy expenditure in patients with Crohn's disease: measurement by the combined body scan technique. *JPEN J Parenter Enteral Nutr.* 1993;17(1):3-7.
- [167] Sturniolo GC, Di Leo V, Ferronato A, D'Odorico A, D'Inca R. Zinc supplementation tightens "leakygut" in Crohn's disease. *Inflamm Bowel Dis.* 2001;7(2):94-8.
- [168] Sturniolo GC, Mestriner C, Lecis PE et al. Altered plasma and mucosal concentrations of trace elements and antioxidants in active ulcerative colitis. *Scand J Gastroenterol.* 1998;33(6):644-9.
- [169] Terada A, Yoshida M, Seko Y et al. Active oxygen species generation and cellular damage by additives of parenteral preparations: selenium and sulfhydryl compounds. *Nutrition.* 1999;15(9):651-5.
- [170] Teraoka T. Studies on the peculiarity of gripstrength in relation to body positions and aging. *Kobe J Med Sci.* 1979;25:1-17.
- [171] Thomas AG, Miller V, Shenkin A, Fell GS, Taylor F. Selenium and glutathione peroxidase status in paediatric health and gastrointestinal disease. *J Pediatr Gastroenterol Nutr.* 1994;19(2):213-9.
- [172] Thurnham DI. Impact of disease on markers of micronutrient status. *Proc Nutr Soc* 1997;56:421-31.

- [173] Timmer A, Breuer-Katschinsky B, Goebell H. Time trends in the incidence and disease location of Crohns disease. *Inflamm Bowel Dis* 1999; 5:79-84.
- [174] Trebble TM, Arden NK, Wootton SA et al. Peripheral blood mononuclear cell fatty acid composition and inflammatory mediator production in adult Crohn's disease. *Clin Nutr.* 2004;23(4):647-55.
- [175] Trebble TM, Wootton SA, May A et al. Essential fatty acid status in paediatric Crohn's disease: relationship with disease activity and nutritional status. *Aliment Pharmacol Ther.* 2003;18(4):433-42.
- [176] Tüzün A, Erdil A, Inal V et al. Oxidative stress and antioxidant capacity in patients with inflammatory bowel disease. *Clin Biochem.* 2002;35(7):569-72.
- [177] Vaisman N, Dotan I, Halack A, Niv E. Malabsorption is a major contributor to underweight in Crohn's disease patients in remission. *Nutrition.* 2006;22(9):855-859.
- [178] Van Herpen-Broekmans WM, Klopping-Ketelaars I A, Bots ML et al. Serum carotenoids and vitamins in relation to markers of endothelial function and inflammation. *Eur J Epidemiol.* 2004;19(10):915-2.
- [179] Wardle TD, Hall L, Turnberg LA. Use of coculture of colonic mucosal biopsies to investigate the release of eicosanoids by inflamed and uninflamed mucosa from patients with inflammatory bowel disease. *Gut.* 1992;33(12):1644-51.
- [180] Weiss SJ. Tissue destruction by neutrophils. *N Engl J Med.* 1989;320(6):365-76. Review.
- [181] Wendland BE, Aghdassi E, Tam C et al. Lipid peroxidation and plasma antioxidant micro-nutrients in Crohndisease. *Am J Clin Nutr.* 2001;74(2):259-64.
- [182] Windsor JA, Hill GL. Grip strength: a measure of the proportion of protein loss in surgical patients. *Br J Surg.* 1998;75:880-2.
- [183] Winklhofer-Roob BM, Rock E, Ribalta J, Shmerling DH, Roob JM. Effects of vitamin E and carotenoid status on oxidative stress in health and disease. Evidence obtained from human intervention studies. *Mol Aspects Med.* 2003;24(6):391-402. Review.
- [184] Wintergerst ES, Maggini S, Hornig DH. Immune-enhancing role of vitamin C and zinc and effect on clinical conditions. *Ann Nutr Metab.* 2006;50(2):85-94. Review.
- [185] Wong SH, Knight JA, Hopfer SM, Zahiaria O, Leach CN, Sunderman FW. Lipoperoxides in plasma as measured by liquid-chromatographic separation of malondialdehyde thiobarbituric acid adduct. *Clin Chem.* 1987;33:214-20.

- [186] Wyatt J, Oberhuber G, Pongratz S, Puspok A, Moser G, Novacek G, Lochs, Vogelsang H. Increased gastric and intestinal permeability in patients with Crohns disease. *Am J Gastroenterol.* 1997;92(19):1891-6.
- [187] Yadav D, Hertan HI, Schweitzer P, Norkus EP, Pitchumoni CS. Serum and liver micronutrient antioxidants and serum oxidative stress in patients with chronic hepatitis C. *Am J Gastroenterol.* 2002;97(10):2634-9.
- [188] Zurita VF, Rawls DE, Dyck WP. Nutritional support in inflammatory bowel disease. *Dig Dis.* 1995;13(2):92-107. Review.

Erklärung

Ich, Susanne Hengstermann, erkläre, dass ich die vorgelegte Dissertationsschrift mit dem Thema: „Die Erfassung des Antioxidanzien- und Fettsäurenstatus von Patienten mit chronisch entzündlichen Darmerkrankungen in Remission im Rahmen einer multizentrischen, kontrollierten Kohortenstudie“ selbst verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel benutzt, ohne die (unzulässige) Hilfe Dritter verfasst und auch in Teilen keine Kopien anderer Arbeiten dargestellt habe.