DAFTAR PUSTAKA

Ahima, R. S. 2008. Linking adiponectin to proteinuria. *J Clin Invest* 118:1619-1622.

Apovian, C. M., S. Bigornia, M. Mott, M. R. Meyers, J. Ulloor, M, et al. 2008. Adipose macrophage infiltration is associated with insulin resistance and vascular endothelial dysfunction in obese subjects. *Arterioscler Thromb Vasc Biol* 28:1654-1659.

Arita, Y., S. Kihara, N. Ouchi, K. Maeda, H. Kuriyama, Y, et al. 2002. Adipocyte-derived plasma protein adiponectin acts as a platelet-derived growth factor-BB-binding protein and regulates growth factor-induced common postreceptor signal in vascular smooth muscle cell. *Circulation* 105:2893-2898.

Arita, Y., S. Kihara, N. Ouchi, M. Takahashi, K. Maeda, J, et al. 1999. Paradoxical decrease of an adipose-specific protein, adiponectin, in obesity. *Biochem Biophys Res Commun* 257:79-83.

Asimakopoulos, B., A. Milousis, T. Gioka, G. Kabouromiti, G. Gianisslis,et al. 2009. Serum pattern of circulating adipokines throughout the physiological menstrual cycle. *Endocr J* 56:425-433.

Barness, L. A., J. M. Opitz, and E. Gilbert-Barness. 2007. Obesity: genetic, molecular, and environmental aspects. *Am J Med Genet A* 143A:3016-3034.

Beauloye, V., F. Zech, H. T. Tran, P. Clapuyt, M. Maes,et al. 2007. Determinants of early atherosclerosis in obese children and adolescents. *J Clin Endocrinol Metab* 92:3025-3032.

Belovici, M. I., and G. I. Pandele. 2008. [Arterial media calcification in patients with type 2 diabetes mellitus]. *Rev Med Chir Soc Med Nat Iasi* 112:21-34.

Bostrom, K. 2001. Insights into the mechanism of vascular calcification. *Am J Cardiol* 88:20E-22E.

Browner, W. S., L. Y. Lui, and S. R. Cummings. 2001. Associations of serum osteoprotegerin levels with diabetes, stroke, bone density, fractures, and mortality in elderly women. *J Clin Endocrinol Metab* 86:631-637.

Budoff, M. J., and K. M. Gul. 2008. Expert review on coronary calcium. *Vasc Health Risk Manag* 4:315-324.

Callister, T. Q., P. Raggi, B. Cooil, N. J. Lippolis, and D. J. Russo. 1998. Effect of HMG-CoA reductase inhibitors on coronary artery disease as assessed by electron-beam computed tomography. *N Engl J Med* 339:1972-1978.

Chen, K., F. Li, J. Li, H. Cai, S. Strom, A, et al. 2006. Induction of leptin resistance through direct interaction of C-reactive protein with leptin. *Nat Med* 12:425-432.

Clearfield, M. B. 2005. C-reactive protein: a new risk assessment tool for cardiovascular disease. *J Am Osteopath Assoc* 105:409-416.

Cola, C., M. Almeida, D. Li, F. Romeo, and J. L. Mehta. 2004. Regulatory role of endothelium in the expression of genes affecting arterial calcification. *Biochem Biophys Res Commun* 320:424-427.

Cornish, J., K. E. Callon, U. Bava, C. Lin, D. Naot, B. L, et al.2002. Leptin directly regulates bone cell function in vitro and reduces bone fragility in vivo. *J Endocrinol* 175:405-415.

Costacou, T., D. Edmundowicz, C. Prince, B. Conway, and T. J. Orchard. 2007. Progression of coronary artery calcium in type 1 diabetes mellitus. *Am J Cardiol* 100:1543-1547.

Coylewright, M., K. Rice, M. J. Budoff, R. S. Blumenthal, P. Greenland, et al. 2011. Differentiation of severe coronary artery calcification in the Multi-Ethnic Study of Atherosclerosis. *Atherosclerosis* 219:616-622.

Dafopoulos, K., D. Sourlas, A. Kallitsaris, S. Pournaras, and I. E. Messinis. 2009. Blood ghrelin, resistin, and adiponectin concentrations during the normal menstrual cycle. *Fertil Steril* 92:1389-1394.

de Ferranti, S., and D. Mozaffarian. 2008. The perfect storm: obesity, adipocyte dysfunction, and metabolic consequences. *Clin Chem* 54:945-955.

Deng, G., Y. Long, Y. R. Yu, and M. R. Li. 2010. Adiponectin directly improves endothelial dysfunction in obese rats through the AMPK-eNOS Pathway. *Int J Obes (Lond)* 34:165-171.

Detrano, R., A. D. Guerci, J. J. Carr, D. E. Bild, G. Burke,et al. 2008. Coronary calcium as a predictor of coronary events in four racial or ethnic groups. *N Engl J Med* 358 :1336-1345.

Doherty, T. M., L. A. Fitzpatrick, D. Inoue, J. H. Qiao, M. C. Fishbein,et al. 2004. Molecular, endocrine, and genetic mechanisms of arterial calcification. *Endocr Rev* 25:629-672.

Dubey, L., and Z. Hesong. 2006. Role of leptin in atherogenesis. *Exp Clin Cardiol* 11:269-275.

Farzaneh-Far, A., and C. M. Shanahan. 2005. Biology of vascular calcification in renal disease. *Nephron Exp Nephrol* 101:e134-138.

Ferrannini, E., A. Natali, P. Bell, P. Cavallo-Perin, N. Lalic, et al. 1997. Insulin resistance and hypersecretion in obesity. European Group for the Study of Insulin Resistance (EGIR). *J Clin Invest* 100:1166-1173.

Fitzgerald, P. J., T. A. Ports, and P. G. Yock. 1992. Contribution of localized calcium deposits to dissection after angioplasty. An observational study using intravascular ultrasound. *Circulation* 86:64-70.

Folsom, A. R., R. A. Kronmal, R. C. Detrano, D. H. O'Leary, D. E. Bild,et al. 2008. Coronary artery calcification compared with carotid intima-media thickness in the prediction of cardiovascular disease incidence: the Multi-Ethnic Study of Atherosclerosis (MESA). *Arch Intern Med* 168:1333-1339.

Fox, C. S., S. J. Hwang, J. M. Massaro, K. Lieb, R. S. Vasan,et al. 2009. Relation of subcutaneous and visceral adipose tissue to coronary and

abdominal aortic calcium (from the Framingham Heart Study). *Am J Cardiol* 104:543-547.

Gable, D. R., S. J. Hurel, and S. E. Humphries. 2006. Adiponectin and its gene variants as risk factors for insulin resistance, the metabolic syndrome and cardiovascular disease. *Atherosclerosis* 188 (2):231-244.

Galicka-Latala, D., M. Kuzniewski, D. Fedak, E. Konduracka, and J. Sieradzki. 2006. [Fetuin A and matrix GLA protein in long standing type I diabetic patients without ischaemic heart disease]. *Przegl Lek* 63:1252-1255.

Geffken, D. F., M. Cushman, G. L. Burke, J. F. Polak, P. A. Sakkinen, et al. 2001. Association between physical activity and markers of inflammation in a healthy elderly population. *Am J Epidemiol* 153:242-250.

Giachelli, C. M. 2004. Vascular calcification mechanisms. *J Am Soc Nephrol* 15 :2959-2964.

Guerra, B., T. Fuentes, S. Delgado-Guerra, A. Guadalupe-Grau, H. Olmedillas, et al. 2008. Gender dimorphism in skeletal muscle leptin receptors, serum leptin and insulin sensitivity. *PLoS One* 3:e3466.

Guzik, T. J., D. Mangalat, and R. Korbut. 2006. Adipocytokines - novel link between inflammation and vascular function? *J Physiol Pharmacol* 57:505-528.

Hajer, G. R., T. W. van Haeften, and F. L. Visseren. 2008. Adipose tissue dysfunction in obesity, diabetes, and vascular diseases. *Eur Heart J* 29:2959-2971.

Harsch, I. A., T. Bergmann, C. Koebnick, R. Wiedmann, F. Ruderich, et al. 2007. Adiponectin, resistin and subclinical inflammation--the metabolic burden in Launois Bensaude Syndrome, a rare form of obesity. *J Physiol Pharmacol* 58 Suppl 1:65-76.

Hattori, Y., Y. Nakano, S. Hattori, A. Tomizawa, K. Inukai, et al. 2008. High molecular weight adiponectin activates AMPK and suppresses cytokine-induced NF-kappaB activation in vascular endothelial cells. *FEBS Lett* 582:1719-1724.

Heilbronn, L. K., and L. V. Campbell. 2008. Adipose tissue macrophages, low grade inflammation and insulin resistance in human obesity. *Curr Pharm Des* 14:1225-1230.

Hong, S. C., S. W. Yoo, G. J. Cho, T. Kim, J. Y. Hur, et al.2007. Correlation between estrogens and serum adipocytokines in premenopausal and postmenopausal women. *Menopause* 14:835-840.

Hosogai, N., A. Fukuhara, K. Oshima, Y. Miyata, S. Tanaka, K.et al. 2007. Adipose tissue hypoxia in obesity and its impact on adipocytokine dysregulation. *Diabetes* 56:901-911.

Hosoi, T., M. Sasaki, T. Miyahara, C. Hashimoto, S. Matsuo,et al. 2008. Endoplasmic reticulum stress induces leptin resistance. *Mol Pharmacol* 74:1610-1619.

Hruska, K. A., S. Mathew, and G. Saab. 2005. Bone morphogenetic proteins in vascular calcification. *Circ Res* 97:105-114.

Hu, E., P. Liang, and B. M. Spiegelman. 1996. AdipoQ is a novel adipose-specific gene dysregulated in obesity. *J Biol Chem* 271:10697-10703.

Ikeoka, D., J. K. Mader, and T. R. Pieber. 2010. Adipose tissue, inflammation and cardiovascular disease. *Rev Assoc Med Bras* 56:116-121.

Inadera, H. 2008. The usefulness of circulating adipokine levels for the assessment of obesity-related health problems. *Int J Med Sci* 5:248-262.

Inoue, M., E. Maehata, M. Yano, M. Taniyama, and S. Suzuki. 2005. Correlation between the adiponectin-leptin ratio and parameters of insulin resistance in patients with type 2 diabetes. *Metabolism* 54:281-286.

Inoue, M., M. Yano, M. Yamakado, E. Maehata, and S. Suzuki. 2006. Relationship between the adiponectin-leptin ratio and parameters of insulin resistance in subjects without hyperglycemia. *Metabolism* 55:1248-1254.

Iribarren, C., G. Husson, A. S. Go, J. C. Lo, J. M. Fair, et al.2007. Plasma leptin levels and coronary artery calcification in older adults. *J Clin Endocrinol Metab* 92:729-732.

Jamjoum, L. S., L. F. Bielak, S. T. Turner, I. P. Sheedy, E. Boerwinkle,et al. 2002. Relationship of blood pressure measures with coronary artery calcification. *Med Sci Monit* 8:CR775-781.

Jenny, N. S., E. R. Brown, R. Detrano, A. R. Folsom, M. F. Saad,et al. 2010. Associations of inflammatory markers with coronary artery calcification: results from the Multi-Ethnic Study of Atherosclerosis. *Atherosclerosis* 209:226-229.

Jensky, N. E., M. H. Criqui, M. C. Wright, C. L. Wassel, S. A. Brody,et al. 2010. Blood pressure and vascular calcification. *Hypertension* 55:990-997.

Johnson, K. M., and D. A. Dowe.2010. The detection of any coronary calcium outperforms Framingham risk score as a first step in screening for coronary atherosclerosis. *AJR Am J Roentgenol* 194:1235-1243.

Johnson, R. C., J. A. Leopold, and J. Loscalzo. 2006. Vascular calcification: pathobiological mechanisms and clinical implications. *Circ Res* 99:1044-1059.

Jono, S., Y. Ikari, C. Vermeer, P. Dissel, K. Hasegawa, et al. 2004. Matrix Gla protein is associated with coronary artery calcification as assessed by electron-beam computed tomography. *Thromb Haemost* 91:790-794.

Jono, S., A. Shioi, Y. Ikari, and Y. Nishizawa. 2006. Vascular calcification in chronic kidney disease. *J Bone Miner Metab* 24:176-181.

Kamada, Y., T. Takehara, and N. Hayashi. 2008. Adipocytokines and liver disease. *J Gastroenterol* 43:811-822.

Kaptoge, S., E. Di Angelantonio, G. Lowe, M. B. Pepys, S. G. Thompson, et al. 2010. C-reactive protein concentration and risk of coronary heart disease, stroke, and mortality: an individual participant meta-analysis. *Lancet* 375:132-140.

Kaser, S., T. Tatarczyk, A. Stadlmayr, C. Ciardi, C. Ress, et al. 2008. Effect of obesity and insulin sensitivity on adiponectin isoform distribution. *Eur J Clin Invest* 38:827-834.

Kobayashi, S., N. Inoue, Y. Ohashi, M. Terashima, K. Matsui,et al. 2003. Interaction of oxidative stress and inflammatory response in coronary plaque instability: important role of C-reactive protein. *Arterioscler Thromb Vasc Biol* 23:1398-1404.

Krentz, A. J., D. von Muhlen, and E. Barrett-Connor. 2009. Adipocytokines, sex hormones, and cardiovascular risk factors in postmenopausal women: factor analysis of the Rancho Bernardo study. *Horm Metab Res* 41:773-777.

Kritchevsky, S. B., M. Cesari, and M. Pahor. 2005. Inflammatory markers and cardiovascular health in older adults. *Cardiovasc Res* 66:265-275.

Kubota N, T. Y., Yamauchi T, Kubota T, Moroi M, Matsui J, et al. 2002. Disruption of adiponectin causes insulin resistance and neointimal formation. *J Biol Chem* 277:25863–25866.

Lecke, S. B., D. M. Morsch, and P. M. Spritzer. 2011. Leptin and adiponectin in the female life course. *Braz J Med Biol Res* 44:381-387.

Li, X., H. Y. Yang, and C. M. Giachelli. 2008. BMP-2 promotes phosphate uptake, phenotypic modulation, and calcification of human vascular smooth muscle cells. *Atherosclerosis* 199:271-277.

Liang, K. W., W. H. Sheu, W. L. Lee, T. J. Liu, C. T. Ting, et al. 2007. Decreased circulating protective adiponectin level is associated with angiographic coronary disease progression in patients with angina pectoris. *Int J Cardiol.*

Libby, P., and P. M. Ridker. 2004. Inflammation and atherosclerosis: role of C-reactive protein in risk assessment. *Am J Med* 116 Suppl 6A:9S-16S.

Maahs, D. M., L. G. Ogden, G. L. Kinney, P. Wadwa, J. K. Snell-Bergeon,et al. 2005. Low plasma adiponectin levels predict progression of coronary artery calcification. *Circulation* 111:747-753.

Mangge, H., G. Almer, S. Haj-Yahya, S. Pilz, R. Gasser, et al. 2008. Preatherosclerosis and adiponectin subfractions in obese adolescents. *Obesity (Silver Spring)* 16:2578-2584.

Martin, S. S., A. Qasim, and M. P. Reilly. 2008. Leptin resistance: a possible interface of inflammation and metabolism in obesity-related cardiovascular disease. *J Am Coll Cardiol* 52 :1201-1210.

Matsuda M, S. I., Sata M, Arita Y, Nishida M, Maeda N, et al. 2002. Role of adiponectin in preventing vascular stenosis: the missing link of adipo-vascular axis. *J Biol Chem* 277:37487–37491.

Mayer, B., W. Lieb, P. W. Radke, A. Gotz, M. Fischer, et al. 2007. Association between arterial pressure and coronary artery calcification. *J Hypertens* 25:1731-1738.

Mazzini, M. J., and P. C. Schulze. 2006. Proatherogenic pathways leading to vascular calcification. *Eur J Radiol* 57:384-389.

Meier, U., and A. M. Gressner. 2004. Endocrine regulation of energy metabolism: review of pathobiochemical and clinical chemical aspects of leptin, ghrelin, adiponectin, and resistin. *Clin Chem* 50:1511-1525.

Meigs, J. B., M. G. Larson, R. B. D'Agostino, D. Levy, M. E. Clouse, et al. 2002. Coronary artery calcification in type 2 diabetes and insulin resistance: the framingham offspring study. *Diabetes Care* 25:1313-1319.

Memon, R. A., I. Staprans, M. Noor, W. M. Holleran, Y. Uchida, et al. 2000. Infection and inflammation induce LDL oxidation in vivo. *Arterioscler Thromb Vasc Biol* 20:1536-1542.

Milewicz, A., K. Zatonska, M. Demissie, D. Jedrzejuk, K. Dunajska, et al. 2005. Serum adiponectin concentration and cardiovascular risk factors in climacteric women. *Gynecol Endocrinol* 20:68-73.

Mohamed-Ali, V., J. H. Pinkney, and S. W. Coppack. 1998. Adipose tissue as an endocrine and paracrine organ. *Int J Obes Relat Metab Disord* 22:1145-1158.

Momiyama, Y., R. Ohmori, Z. A. Fayad, T. Kihara, N. Tanaka, et al. 2010. Associations between plasma C-reactive protein levels and the severities of coronary and aortic atherosclerosis. *J Atheroscler Thromb* 17:460-467.

Murphy, N. F., K. MacIntyre, S. Stewart, C. L. Hart, D. Hole, et al. 2006. Long-term cardiovascular consequences of obesity: 20-year follow-up of more than 15 000 middle-aged men and women (the Renfrew-Paisley study). *Eur Heart J* 27:96-106.

Mutch, D. M., C. Rouault, M. Keophiphath, D. Lacasa, and K. Clement. 2009. Using gene expression to predict the secretome of differentiating human preadipocytes. *Int J Obes (Lond)* 33:354-363.

Newman, A. B., B. L. Naydeck, K. Sutton-Tyrrell, A. Feldman, D. Edmundowicz, et al. 2001. Coronary artery calcification in older adults to age 99: prevalence and risk factors. *Circulation* 104:2679-2684.

Nicklas, B. J., B. W. Penninx, M. Cesari, S. B. Kritchevsky, A. B. Newman, A.et al. 2004. Association of visceral adipose tissue with incident myocardial infarction in older men and women: the Health, Aging and Body Composition Study. *Am J Epidemiol* 160:741-749.

Norata, G. D., S. Raselli, L. Grigore, K. Garlaschelli, E. Dozio, et al. 2007. Leptin:adiponectin ratio is an independent predictor of intima media thickness of the common carotid artery. *Stroke* 38:2844-2846.

Ogier, V., O. Ziegler, L. Mejean, J. P. Nicolas, and A. Stricker-Krongrad. 2002. Obesity is associated with decreasing levels of the circulating soluble leptin receptor in humans. *Int J Obes Relat Metab Disord* 26:496-503.

Ohashi, K., J. L. Parker, N. Ouchi, A. Higuchi, J. A. Vita, et al. 2010. Adiponectin promotes macrophage polarization toward an anti-inflammatory phenotype. *J Biol Chem* 285:6153-6160.

Ouchi, N., S. Kihara, T. Funahashi, T. Nakamura, M. Nishida, et al. 2003. Reciprocal association of C-reactive protein with adiponectin in blood stream and adipose tissue. *Circulation* 107:671-674.

Ouchi N, K. S., Arita Y, Maeda K, Kuriyama H, Okamoto Y, et al. 1999. Novel modulator for endothelial adhesion molecules: adipocyte-derived plasma protein adiponectin. *Circulation* 100:2473–2476.

Pajvani, U. B., X. Du, T. P. Combs, A. H. Berg, M. W. Rajala, et al. 2003. Structure-function studies of the adipocyte-secreted hormone Acrp30/adiponectin. Implications fpr metabolic regulation and bioactivity. *J Biol Chem* 278:9073-9085.

Parhami, F., B. Basseri, J. Hwang, Y. Tintut, and L. L. Demer. 2002. High-density lipoprotein regulates calcification of vascular cells. *Circ Res* 91:570-576.

Parhami, F., K. Bostrom, K. Watson, and L. L. Demer. 1996. Role of molecular regulation in vascular calcification. *J Atheroscler Thromb* 3:90-94.

Pearson, T. A., G. A. Mensah, Y. Hong, and S. C. Smith, Jr. 2004. CDC/AHA Workshop on Markers of Inflammation and Cardiovascular Disease: Application to Clinical and Public Health Practice: overview. *Circulation* 110:e543-544.

Pena, A. S., D. P. Belobrajdic, E. Wiltshire, R. Gent, C. Hirte, et al. 2010. Adiponectin relates to smooth muscle function and folate in obese children. *Int J Pediatr Obes* 5:185-191.

Proudfoot, D., and C. M. Shanahan. 2006. Molecular mechanisms mediating vascular calcification: role of matrix Gla protein. *Nephrology (Carlton)* 11:455-461.

Qasim, A., N. N. Mehta, M. G. Tadesse, M. L. Wolfe, T. Rhodes, et al. 2008. Adipokines, insulin resistance, and coronary artery calcification. *J Am Coll Cardiol* 52:231-236.

Raggi, P., A. Boulay, S. Chasan-Taber, N. Amin, M. Dillon,et al. 2002. Cardiac calcification in adult hemodialysis patients. A link between end-stage renal disease and cardiovascular disease? *J Am Coll Cardiol* 39:695-701.

Raggi, P., M. C. Gongora, A. Gopal, T. Q. Callister, M. Budoff,et al. 2008. Coronary artery calcium to predict all-cause mortality in elderly men and women. *J Am Coll Cardiol* 52:17-23.

Raggi, P., L. J. Shaw, D. S. Berman, and T. Q. Callister. 2004. Gender-based differences in the prognostic value of coronary calcification. *J Womens Health (Larchmt)* 13:273-283.

Rajala, M. W., and P. E. Scherer. 2003. Minireview: The adipocyte--at the crossroads of energy homeostasis, inflammation, and atherosclerosis. *Endocrinology* 144:3765-3773.

Reilly, M. P., N. Iqbal, M. Schutta, M. L. Wolfe, M. Scally, et al. 2004. Plasma leptin levels are associated with coronary atherosclerosis in type 2 diabetes. *J Clin Endocrinol Metab* 89:3872-3878.

Rho, Y. H., C. P. Chung, J. F. Solus, P. Raggi, A. Oeser, et al. 2010. Adipocytokines, insulin resistance, and coronary atherosclerosis in rheumatoid arthritis. *Arthritis Rheum* 62:1259-1264.

Rumberger, J. A., D. B. Simons, L. A. Fitzpatrick, P. F. Sheedy, and R. S. Schwartz. 1995. Coronary artery calcium area by electron-beam computed tomography and coronary atherosclerotic plaque area. A histopathologic correlative study. *Circulation* 92:2157-2162.

Russwurm, S., S. Krause, L. Finkelberg, K. Ruhling, U. Schauer, et al. 1994. Generation of reactive oxygen species and activity of platelet-activating factor acetylhydrolase in human monocyte-derived macrophages. *Thromb Res* 74:505-514.

Sandhofer, A., M. Laimer, C. F. Ebenbichler, S. Kaser, B. Paulweber, et al. 2003. Soluble leptin receptor and soluble receptor-bound fraction of leptin in the metabolic syndrome. *Obes Res* 11:760-768.

Satoh, N., M. Naruse, T. Usui, T. Tagami, T. Suganami, et al. 2004. Leptin-to-adiponectin ratio as a potential atherogenic index in obese type 2 diabetic patients. *Diabetes Care* 27:2488-2490.

Sattar, N., G. Wannamethee, N. Sarwar, J. Tchernova, L. Cherry, et al. 2006. Adiponectin and coronary heart disease: a prospective study and meta-analysis. *Circulation* 114:623-629.

Schäfer K, H. M., Goeschen C, Dellas C, Pynn M, Loskutoff DJ, Konstantinides S 2004. Leptin promotes vascular remodeling and neointimal growth in mice. *Arterioscler Thromb Vasc Biol* 24:112–117.

Schmermund, A., D. Baumgart, G. Gorge, D. Gronemeyer, R. Seibel, et al. 1998. Measuring the effect of risk factors on coronary atherosclerosis: coronary calcium score versus angiographic disease severity. *J Am Coll Cardiol* 31:1267-1273.

Schmermund, A., A. E. Denktas, J. A. Rumberger, T. F. Christian, P. F. Sheedy, 2nd,et al. 1999. Independent and incremental value of coronary artery calcium for predicting the extent of angiographic coronary artery disease: comparison with cardiac risk factors and radionuclide perfusion imaging. *J Am Coll Cardiol* 34:777-786.

Schoepf UJ. 2010. Coronary atherosclerosis and coronary artery disease in patients with obstructive sleep apnea: Assessment with coronary CT angiography. Radiological Society of North America 2010; Chicago, IL. Abstract SST02-06.

Shamsuzzaman, A. S., M. Winnicki, R. Wolk, A. Svatikova, B. G. Phillips, et al. 2004. Independent association between plasma leptin and C-reactive protein in healthy humans. *Circulation* 109:2181-2185.

Shao, J. S., J. Cai, and D. A. Towler. 2006. Molecular mechanisms of vascular calcification: lessons learned from the aorta. *Arterioscler Thromb Vasc Biol* 26:1423-1430.

Shao, J. S., S. L. Cheng, J. Sadhu, and D. A. Towler. 2010. Inflammation and the osteogenic regulation of vascular calcification: a review and perspective. *Hypertension* 55:579-592.

Shaw, L. J., P. Raggi, D. S. Berman, and T. Q. Callister. 2006. Coronary artery calcium as a measure of biologic age. *Atherosclerosis* 188:112-119.

Shaw, L. J., P. Raggi, E. Schisterman, D. S. Berman, and T. Q. Callister. 2003. Prognostic value of cardiac risk factors and coronary artery calcium screening for all-cause mortality. *Radiology* 228:826-833.

Sieminska, L., A. Cichon-Lenart, D. Kajdaniuk, B. Kos-Kudla, B. Marek ,et al. 2006. [Sex hormones and adipocytokines in postmenopausal women]. *Pol Merkur Lekarski* 20:727-730.

Singh, P., M. Hoffmann, R. Wolk, A. S. Shamsuzzaman, and V. K. Somers. 2007. Leptin induces C-reactive protein expression in vascular endothelial cells. *Arterioscler Thromb Vasc Biol* 27:e302-307.

Stephenson K, T. J., Tsai A, Gordon R, Henderson S, Dansky HM. 2004. Neointimal formation after endovascular arterial injury is markedly attenuated in db/db mice. *Arterioscler Thromb Vasc Biol* 23:2027-2033.

Stompor, T., M. Pasowicz, W. Sullowicz, A. Dembinska-Kiec, K. Janda,et al. 2003. An association between coronary artery calcification score, lipid profile, and selected markers of chronic inflammation in ESRD patients treated with peritoneal dialysis. *Am J Kidney Dis* 41:203-211.

Sorajja, D., Gami, A.S., Somers, V.K., Behrenbeck T.R., Garcia-Touchard, A., Lopez-Jimenez, F. 2008. Independent association between obstructive sleep apnea and subclinical coronary artery disease. *Chest* 133:927-33.

Sugiura, K., K. Tamakoshi, H. Yatsuya, R. Otsuka, K. Wada, et al.2008. Contribution of adipocytokines to low-grade inflammatory state as expressed by circulating C-reactive protein in Japanese men: comparison of leptin and adiponectin. *Int J Cardiol* 130:159-164.

Sun, H., T. Koike, T. Ichikawa, K. Hatakeyama, M. Shiomi, et al. 2005. C-reactive protein in atherosclerotic lesions: its origin and pathophysiological significance. *Am J Pathol* 167:1139-1148.

Sweatt, A., D. C. Sane, S. M. Hutson, and R. Wallin. 2003. Matrix Gla protein (MGP) and bone morphogenetic protein-2 in aortic calcified lesions of aging rats. *J Thromb Haemost* 1:178-185.

Thomas, T., and B. Burguera. 2002. Is leptin the link between fat and bone mass? *J Bone Miner Res* 17:1563-1569.

Thomopoulos, C., D. P. Papadopoulos, O. Papazachou, A. Bratsas, S. Massias, et al.2009. Free leptin is associated with masked hypertension in nonobese subjects: a cross-sectional study. *Hypertension* 53:965-972.

Tieu, B. C., C. Lee, H. Sun, W. Lejeune, A. Recinos, 3rd, et al. 2009. An adventitial IL-6/MCP1 amplification loop accelerates macrophage-mediated vascular inflammation leading to aortic dissection in mice. *J Clin Invest* 119:3637-3651.

Tintut, Y., and L. L. Demer. 2001. Recent advances in multifactorial regulation of vascular calcification. *Curr Opin Lipidol* 12:555-560.

Tsochatzis, E., G. V. Papatheodoridis, and A. J. Archimandritis. 2006. The evolving role of leptin and adiponectin in chronic liver diseases. *Am J Gastroenterol* 101:2629-2640.

van Dielen, F. M., C. van 't Veer, W. A. Buurman, and J. W. Greve. 2002. Leptin and soluble leptin receptor levels in obese and weight-losing individuals. *J Clin Endocrinol Metab* 87:1708-1716.

Verma, S., S. Devaraj, and I. Jialal. 2006. Is C-reactive protein an innocent bystander or proatherogenic culprit? C-reactive protein promotes atherothrombosis. *Circulation* 113 :2135-2150; discussion 2150.

Wallin, R., L. Schurgers, and N. Wajih. 2008. Effects of the blood coagulation vitamin K as an inhibitor of arterial calcification. *Thromb Res* 122:411-417.

Wang, T. J., M. G. Larson, D. Levy, E. J. Benjamin, M. J. Kupka, et al. 2002. C-reactive protein is associated with subclinical epicardial coronary calcification in men and women: the Framingham Heart Study. *Circulation* 106:1189-1191.

Wang, Z., and T. Nakayama. 2010. Inflammation, a link between obesity and cardiovascular disease. *Mediators Inflamm* 2010:535918.

Weisberg, S. P., D. McCann, M. Desai, M. Rosenbaum, R. L. Leibel, et al. 2003. Obesity is associated with macrophage accumulation in adipose tissue. *J Clin Invest* 112:1796-1808.

Widysanto A., Yunus F., Yusuf I., Sutrisna B. 2012. Disertasi Program S3 FK Universitas Hasanuddin, belum dipublikasi.

Yamagishi SI, E. D., Du XL, Kaneda Y, Guzman M, Brownlee M 2001. Leptin induces mitochondrial superoxide production and monocyte chemoattractant protein-1 expression in aortic endothelial cells by increasing fatty acid oxidation via protein kinase. *A. J Biol Chem* 276:25096–25100.

Yang, W. S., W. J. Lee, T. Funahashi, S. Tanaka, Y. Matsuzawa, et al. 2001. Weight reduction increases plasma levels of an adipose-derived anti-inflammatory protein, adiponectin. *J Clin Endocrinol Metab* 86:3815-3819.

Yao, Y., A. F. Zebboudj, A. Torres, E. Shao, and K. Bostrom. 2007. Activin-like kinase receptor 1 (ALK1) in atherosclerotic lesions and vascular mesenchymal cells. *Cardiovasc Res* 74:279-289.

Yuan, G., X. Chen, Q. Ma, J. Qiao, R. Li, et al. 2007. C-reactive protein inhibits adiponectin gene expression and secretion in 3T3-L1 adipocytes. *J Endocrinol* 194:275-281.

Yusuf, S., S. Hawken, S. Ounpuu, T. Dans, A. Avezum, et al. 2004. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. *Lancet* 364:937-952.

Zebboudj, A. F., M. Imura, and K. Bostrom. 2002. Matrix GLA protein, a regulatory protein for bone morphogenetic protein-2. *J Biol Chem* 277:4388-4394.

Zebboudj, A. F., V. Shin, and K. Bostrom. 2003. Matrix GLA protein and BMP-2 regulate osteoinduction in calcifying vascular cells. *J Cell Biochem* 90:756-765.

Zoccali, C. 2000. Cardiovascular risk in uraemic patients-is it fully explained by classical risk factors? *Nephrol Dial Transplant* 15:454-457.

LAMPIRAN

Lampiran 1

Tabel 1 . Korelasi variable kendali dan faktor risiko dengan KAK

Faktor Risiko	KAK	
	r	p
Merokok	0,039	0,383
Riwayat hipertensi	0,189	0,074
Konsumsi statin	0,073	0,290
Konsumsi antihipertensi	0,071	0,294
olahraga	0,208	0,056
alkohol	-0,044	0,371
Usia	0.093	0,240
BMI (Body Mass Index)	-0.091	0,244
Tinggi Badan	0,032	0,405
Berat Badan	-0,038	0,386
Lingkar Perut	-0,029	0,414
Lingkar Leher	0,013	0,462
HOMA-IR	-0,103	0,217
Tekanan Darah Sistolik	0,174	0,092
Tekanan Darah Diastolik	0,224	0,042
Total Kolesterol	-0,063	0,315
LDL-Kolesterol	-0.037	0,389
HDL-Kolesterol	0,093	0,239
Trigliserida	-0,102	0,218

Keterangan: R/=Terapi; TB=Tinggi Badan; BB=Berat Badan; BMI= *Body Mass Index*; LL= lingkar Leher; LP = Lingkar Perut; TDS=Tekanan Darah Sistolik; TDD=Tekanan Darah Diastolik; GDP=Glukosa Darah Puasa; HOMA IR=*Homeostasis Model Assessment of Insulin Resistance*; TC=*Total Cholesterol*; HDL = *High Density Lipoprotein Cholesterol*; LDL=Low density Lipoprotein; TG=Trigliserida; KAK=Kalsium Arteri Kororer;SLR=*Soluble Leptin Receptor*; FLI=*Free Leptin Index;* hsCRP=*high sensitive C- Reactive Protein*; BMP2=Bone Morphogenetic Protein; MGP=*Matrix Gla Protein.*

Tabel 2. Korelasi variable kendali dan faktor risiko dengan Rasio L/A

Faktor Risiko	Rasio Leptin/Adiponektin	
	r	p
Merokok	-0,023	0,431
Riwayat hipertensi	0,102	0,219
Konsumsi statin	-0.098	0,228
Konsumsi antihipertensi	0,048	0,358
olahraga	-0,212	0,052
alkohol	0,026	0,421
Usia	-0,059	0,327
BMI (Body Mass Index)	0,639	<0,001
Tinggi Badan	0,050	0,353
Berat Badan	0,571	<0,001
HOMA-IR	0,559	<0,001
Lingkar Perut	0,653	<0,001
Lingkar Leher	0,266	0,020
Tekanan Darah Sistolik	0,038	0,387
Tekanan Darah Diastolik	-0,013	0,462
Total Kolesterol	-0,186	0,077
LDL-Kolesterol	-0,186	0,077
HDL-Kolesterol	-0,138	0,147
Trigliserida	-0,009	0,472

Keterangan: R/=Terapi; TB=Tinggi Badan; BB=Berat Badan; BMI= *Body Mass Index*; LL= lingkar Leher; LP = Lingkar Perut; TDS=Tekanan Darah Sistolik; TDD=Tekanan Darah Diastolik; GDP=Glukosa Darah Puasa; HOMA IR=*Homeostasis Model Assessment of Insulin Resistance*; TC=*Total Cholesterol*; HDL = *High Density Lipoprotein Cholesterol*; LDL=Low density Lipoprotein; TG=Trigliserida; KAK=Kalsium Arteri Kororer;SLR=*Soluble Leptin Receptor*; FLI=*Free Leptin Index;* hsCRP=*high sensitive C- Reactive Protein*; BMP2=Bone Morphogenetic Protein; MGP=*Matrix Gla Protein.*

Tabel 3. Korelasi variable kendali dan faktor risiko dengan rasio FLI/A

Faktor Risiko	Rasio Free Leptin Index/Adiponektin	
	r	p
Merokok	0,009	0,471
Riwayat hipertensi	0,229	0,039
Konsumsi statin	-0,014	0,458
Konsumsi antihipertensi	0,149	0,127
olahraga	-0,196	0,067
alkohol	0,009	0,474
Usia	-0,044	0,370
BMI (Body Mass Index)	0,613	<0,001
Tinggi Badan	-0,044	0,370
Berat Badan	0,550	<0,001
Lingkar Perut	0,668	<0,001
Lingkar Leher	0,292	0,012
HOMA-IR	0,539	<0,001
Tekanan Darah Sistolik	0,117	0,186
Tekanan Darah Diastolik	0,098	0,228
Total Kolesterol	-0,250	0,027
LDL-Kolesterol	-0,225	0,042
HDL-Kolesterol	-0,206	0,058
Trigliserida	-0,004	0,488

Keterangan: R/=Terapi; TB=Tinggi Badan; BB=Berat Badan; BMI= *Body Mass Index*; LL= lingkar Leher; LP = Lingkar Perut; TDS=Tekanan Darah Sistolik; TDD=Tekanan Darah Diastolik; GDP=Glukosa Darah Puasa; HOMA IR=*Homeostasis Model Assessment of Insulin Resistance*; TC=*Total Cholesterol*; HDL = *High Density Lipoprotein Cholesterol*; LDL=Low density Lipoprotein; TG=Trigliserida; KAK=Kalsium Arteri Kororer;SLR=*Soluble Leptin Receptor*; FLI=*Free Leptin Index;* hsCRP=*high sensitive C- Reactive Protein*; BMP2=Bone Morphogenetic Protein; MGP=*Matrix Gla Protein. ;* n = jumlah subyek; r = korelasi bivariat *Spearman one-tailed*; *p* = nilai kemaknaan; * korelasi bermakna pada p<0,05; ** korelasi bermakna pada p<0,01.

Tabel 4 . Korelasi variable kendali dan faktor risiko dengan hs-CRP

Faktor Risiko	*r*	*p*
Merokok	-0,063	0,315
Riwayat hipertensi	0,096	0,232
Riwayat Dislipidemia	-0,008	0,476
Konsumsi statin	-0,184	0,080
Konsumsi antihipertensi	0,013	0,462
olahraga	-0,383	0,01
alkohol	-0,145	0,135
Usia	-0,166	0,103
BMI (Body Mass Index)	0,187	0,076
Tinggi Badan	0,013	0,462
Berat Badan	0,174	0,091
Lingkar Perut	0,192	0,071
Lingkar Leher	0,303	0,009
HOMA-IR	0,212	0,052
Tekanan Darah Sistolik	-0,138	0,146
Tekanan Darah Diastolik	-0,195	0,067
Pulse Pressure	-0,007	0,480
Mean Arterial Pressure	-0,207	0,056
Total Kolesterol	0,159	0,112
LDL-Kolesterol	0,161	0,109
HDL-Kolesterol	-0,243	0,031
Trigliserida	0,175	0,091
Insulin puasa	0,194	0,068
HOMA-IR	0,212	0,052

Keterangan: R/=Terapi; TB=Tinggi Badan; BB=Berat Badan; BMI= *Body Mass Index*; LL= lingkar Leher; LP = Lingkar Perut; TDS=Tekanan Darah Sistolik; TDD=Tekanan Darah Diastolik; GDP=Glukosa Darah Puasa; HOMA IR=*Homeostasis Model Assessment of Insulin Resistance*; TC=*Total Cholesterol*; HDL = *High Density Lipoprotein Cholesterol*; LDL=Low density Lipoprotein; TG=Trigliserida; KAK=Kalsium Arteri Kororer;SLR=*Soluble Leptin Receptor*; FLI=*Free Leptin Index;* hsCRP=*high sensitive C- Reactive Protein*; BMP2=Bone Morphogenetic Protein; MGP=*Matrix Gla Protein. ;* n = jumlah subyek; r = korelasi bivariat *Spearman one-tailed*; *p* = nilai kemaknaan; * korelasi bermakna pada p<0,05; ** korelasi bermakna pada p<0,01.

Tabel 5 .Korelasi variable kendali dan faktor risiko dengan BMP2

Faktor Risiko	r	p
Merokok	0,005	0,484
Riwayat hipertensi	0,117	0,186
Riwayat Dislipidemia	-0,136	0,150
Konsumsi statin	0,206	0,057
Konsumsi antihipertensi	0,127	0,167
olahraga	-0,119	0,184
alkohol	-0,186	0,077
Usia	-0,130	0,161
BMI (Body Mass Index)	-0,126	0,168
Tinggi Badan	-0,140	0,144
Berat Badan	-0,192	0,071
Lingkar Perut	-0,058	0,329
Lingkar Leher	-0,020	0,440
HOMA-IR	-0,278	0,016
Tekanan Darah Sistolik	0,137	0,148
Tekanan Darah Diastolik	0,083	0,264
Pulse Pressure	0,104	0,215
Mean Arterial Pressure	0,101	0,222
Total Kolesterol	-0,034	0,398
LDL-Kolesterol	-0,125	0,170
HDL-Kolesterol	0,080	0,271
Trigliserida	0,051	0,350
Insulin puasa	-0,261	0,022
HOMA-IR	-0,278	0,016

Keterangan: R/=Terapi; TB=Tinggi Badan; BB=Berat Badan; BMI= *Body Mass Index*; LL= lingkar Leher; LP = Lingkar Perut; TDS=Tekanan Darah Sistolik; TDD=Tekanan Darah Diastolik; GDP=Glukosa Darah Puasa; HOMA IR=*Homeostasis Model Assessment of Insulin Resistance*; TC=*Total Cholesterol*; HDL = *High Density Lipoprotein Cholesterol*; LDL=Low density Lipoprotein; TG=Trigliserida; KAK=Kalsium Arteri Kororer;SLR=*Soluble Leptin Receptor*; FLI=*Free Leptin Index;* hsCRP=*high sensitive C- Reactive Protein*; BMP2=Bone Morphogenetic Protein; MGP=*Matrix Gla Protein. ;* n = jumlah subyek; r = korelasi bivariat *Spearman one-tailed*; *p* = nilai kemaknaan; * korelasi bermakna pada p<0,05; ** korelasi bermakna pada p<0,01.

Tabel 6. Korelasi variable kendali dan faktor risiko dengan MGP

Faktor Risiko	r	p
Merokok	-0,054	0,340
Riwayat hipertensi	0,062	0,320
Riwayat Dislipidemia	-0,167	0,100
Konsumsi statin	-0,189	0,074
Konsumsi antihipertensi	-0,092	0,243
olahraga	-0,120	0,180
alkohol	0,099	0,225
Usia	-0,180	0,084
BMI (Body Mass Index)	-0,013	0,461
Tinggi Badan	-0,127	0,166
Berat Badan	-0,109	0,204
Lingkar Perut	0,002	0,493
Lingkar Leher	0,050	0,351
HOMA-IR	0,156	0,117
Tekanan Darah Sistolik	0,133	0,155
Tekanan Darah Diastolik	0,132	0,157
Pulse Pressure	0,085	0,258
Mean Arterial Pressure	0,093	0,239
Total Kolesterol	-0,030	0,411
LDL-Kolesterol	-0,089	0,248
HDL-Kolesterol	-0,193	0,070
Trigliserida	0,084	0,262
Insulin puasa	0,171	0,095
HOMA-IR	0,156	0,117

Keterangan: R/=Terapi; TB=Tinggi Badan; BB=Berat Badan; BMI= *Body Mass Index*; LL= lingkar Leher; LP = Lingkar Perut; TDS=Tekanan Darah Sistolik; TDD=Tekanan Darah Diastolik; GDP=Glukosa Darah Puasa; HOMA IR=*Homeostasis Model Assessment of Insulin Resistance*; TC=*Total Cholesterol*; HDL = *High Density Lipoprotein Cholesterol*; LDL=Low density Lipoprotein; TG=Trigliserida; KAK=Kalsium Arteri Kororer;SLR=*Soluble Leptin Receptor*; FLI=*Free Leptin Index;* hsCRP=*high sensitive C- Reactive Protein*; BMP2=Bone Morphogenetic Protein; MGP=*Matrix Gla Protein. ;* n = jumlah subyek; r = korelasi bivariat *Spearman one-tailed*; *p* = nilai kemaknaan; * korelasi bermakna pada p<0,05; ** korelasi bermakna pada p<0,01.

LAMPIRAN 2

KEMENTERIAN PENDIDIKAN NASIONAL
UNIVERSITAS HASANUDDIN
FAKULTAS KEDOKTERAN
KOMISI ETIK PENELITIAN KESEHATAN
JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10, Makassar 90245
Contact Person : dr. Andi Muh Ichsan,PhD (HP. 08134220090901), email: am_ichran@yahoo.com

REKOMENDASI PERSETUJUAN ETIK
Nomor : 0262 /H04.8.4.5.31/PP36-KOMETIK/2010

Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Universitas Hasanuddin, setelah melalui pembahasan dan penilaian, pada rapat tertanggal **12 Mei 2010**, telah memutuskan, protokol penelitian berjudul:

Mekanisme Kalsifikasi Koroner pada Subyek Pria ObesSentral Non-Diabetes Kajian Peranan Free Leptin Index.HMW-Adiponektin, F2-isoprostan, Bone Morphogenetic Protein-2 dan Matrix Gla Protein

dengan Peneliti Utama: **dr. Antonia Anna Lukito**

No. Register

U	H	1	0	0	5	0	0	9	4

yang diterima pada tanggal: **5 Mei 2010**

dapat disetujui untuk dilaksanakan di Bagian Kardiologi Rumah Sakit Siloam Karawaci, Tangerang.
Persetujuan Etik ini berlaku sejak tanggal ditetapkan sampai dengan batas waktu pelaksanaan penelitian.

Pada akhir penelitian, peneliti **harus** menyerahkan **laporan perkembangan** dan **laporan akhir penelitian** kepada KEPK Fakultas Kedokteran Unhas. Jika ada perubahan protokol dan /atau perpanjangan penelitian, harus mengajukan kembali permohonan kajian etik penelitian.

Makassar, 19 Mei 2010

Komisi Etik Penelitian Kesehatan Fak. Kedokteran Unhas

Ketua

Sekretaris

Prof. Dr. dr. Suryani As'ad, M.Sc, Sp.GK
NIP 19600504 1986 01 2 002

Dr. Andi Muh. Ichsan,Ph.D
NIP 19700212 2008 01 1 013

LAMPIRAN 3

NASKAH PENJELASAN UNTUK RESPONDEN (SUBYEK)

Selamat pagi, saya, dr. Antonia Anna Lukito, akan melakukan penelitian mengenai mekanisme terjadinya perkapuran koroner pada pria obes sentral.

Obesitas merupakan suatu kondisi akumulasi berlebihan lemak tubuh hingga menimbulkan efek atas kesehatan, menurunkan harapan hidup dan/atau meningkatkan gangguan kesehatan.

Disebut obesitas sentral bila lemak menumpuk terutama di daerah perut dan pinggang -- ditandai dengan lingkar pinggang >90cm –-- akan meningkatkan risiko untuk terjadi gangguan kesehatan seperti tekanan darah tinggi, kolesterol tinggi, kencing manis, penyakit jantung dan stroke.

Salah satu konsekuensi obesitas yang paling awal dikenali adalah penyakit jantung koroner, dan seperti kita ketahui hingga saat ini penyakit jantung koroner merupakan penyebab kematian nomor satu baik di dunia maupun di Indonesia.

Serangan jantung koroner dapat dicegah dengan gaya hidup sehat dan deteksi dini. Salah satu cara untuk deteksi dini adalah dengan pemeriksaan perkapuran koroner dengan cara menghitung skor kalsium arteri koroner menggunakan teknologi DSCT scan. Perkapuran koroner merupakan prediktor untuk peningkatan risiko serangan jantung.

Mengapa obesitas sentral dapat menimbulkan peningkatan risiko penyakit jantung koroner? Hal ini dikarenakan jaringan lemak, terutama lemak sekitar pinggang, ternyata tidak hanya berfungsi sebagai penyimpan cadangan energi saja, melainkan juga merupakan suatu organ hormon yang aktif, dan dapat mengeluarkan protein –protein pengatur keseimbangan energi dan berbagai jalur metabolisme tubuh..

Di dalam tubuh yang sehat, protein-protein pengatur tersebut terdapat dalam jumlah dan kekuatan yang seimbang, sehingga tak terjadi gangguan kesehatan. Namun pada individu dengan obesitas sentral, diduga terjadi ketidak seimbangan jumlah dan kekuatan protein-protein pengatur tersebut sehingga menimbulkan gangguan pengaturan dan jalur metabolisme tubuh yang pada akhirnya menimbulkan akibat berupa perkapuran koroner dini.

Dengan latar belakang tersebut, kami bermaksud melakukan penelitian yang berjudul: Mekanisme kalsifikasi arteri koroner pada pria obes sentral non-diabetes dengan kajian peranan free leptin index, HMW-adiponektin, F2-isoprostan, bone morphogenetic protein-2 dan matrix gla protein.

Free leptin index, HMW-adiponektin, F2-isoprostan, bone morphogenetic protein-2 dan matrix gla protein merupakan protein-protein pengatur yang mempengaruhi terbentuknya perkapuran koroner

Penelitian ini bertujuan untuk mengetahui bagaimana mekanisme terjadinya perkapuran koroner pada pria obes sentral dengan mengkaji peranan protein-protein tersebut.
Hasil penelitian ini diharapkan dapat menambah penjelasan mengenai peran masing – masing protein tersebut terhadap perkapuran koroner, sehingga dapat dijadikan dasar
untuk memperbaiki keseimbangan protein-protein tersebut, serta untuk pencegahan terhadap terjadinya penyakit jantung koroner dan serangan jantung, terutama pada pria obesitas sentral.

Kami berharap Bapak bersedia ikut serta di dalam penelitian ini, dan apabila bersedia mohon agar memberikan pernyataan persetujuan secara tertulis. Keikut-sertaan Bapak dalam penelitian ini bersifat sukarela tanpa paksaan, oleh karena itu Bapak berhak menolak atau mengundurkan diri tanpa risiko kehilangan hak untuk memperoleh pelayanan kesehatan yang seharusnya diberikan bagi Bapak.

Responden dianggap mengundurkan diri jika tidak bersedia menandatangani informed consent dan/atau tidak bersedia mengikuti penelitian setelah mengerti penjelasan yang diberikan oleh peneliti.

Apabila Bapak setuju untuk berpartisipasi didalam penelitian ini, maka kami akan menanyakan beberapa hal mengenai riwayat dan data pribadi Bapak. Kami juga akan melakukan beberapa pemeriksaan antara lain pengukuran lingkar pinggang, suhu tubuh, dan tekanan darah.

Selanjutnya seorang staf Laboratorium akan melakukan pengambilan darah sebanyak kira-kira 2 sendok makan dari pembuluh darah di lipatan siku. Pengambilan darah akan menimbulkan sedikit rasa sakit sebagaimana rasanya bila disuntik. Kemungkinan juga bisa timbul memar ringan atau terjadi infeksi, namun risiko ini dapat diminimalkan dengan prosedur pengambilan darah yang bebas hama menggunakan jarum steril dan dilakukan oleh petugas yang telah terlatih.

Namun bila terjadi hal yang tidak diharapkan akibat pengambilan darah ini, maka Bapak akan ditangani sebagaimana mestinya. Seluruh tindakan pengambilan darah ini, tidak akan membahayakan atau memperberat kondisi penyakit Bapak.

Darah yang diambil tadi akan disentrifuge untuk memperoleh serum yang kemudian akan digunakan untuk beberapa pemeriksaan laboratorium, antara lain kadar glukosa puasa, insulin, kolesterol puasa, fungsi ginjal, dan pemeriksaan free leptin index, HMW-adiponektin, F2-isoprostan, bone morphogenetic protein-2 dan matrix gla protein.

Keuntungan mengikuti penelitian ini adalah dapat mengetahui status kesehatan dan faktor-faktor risiko terhadap perkapuran koroner. Biaya-biaya yang berkaitan dengan pemeriksaan darah ini akan ditanggung oleh peneliti.

Penelitian ini juga bermanfaat bagi pria obesitas sentral lain untuk mewaspadai gangguan keseimbangan protein-protein pengatur dalam menimbulkan perkapuran koroner. Selain itu bagi ilmu pengetahuan akan diperoleh tambahan penjelasan mekanisme terjadinya perkapuran koroner pada pria obesitas sentral.. Oleh karenanya kami sangat menghargai keikut-sertaan dan kepedulian Bapak terhadap pengembangan ilmu kesehatan dan kedokteran, khususnya di Indonesia.

Kami menjamin kerahasiaan data Responden, dan untuk tampilan pengolahan data hanya digunakan kode berupa nomor tanpa mencantumkan inisial, nama atau identitas lainnya.

Bila masih ada hal yang belum jelas atau belum dimengerti dengan baik, maka Bapak dapat meminta penjelasan lebih lanjut kepada kepada saya: dr. Antonia Anna Lukito.

Kami juga meminta ijin dari Bapak untuk melaporkan hasil penelitian kami ini pada :
- Forum ilmiah Program Pasca sarjana (S3) Universitas Hasanuddin.
- Publikasi pada jurnal ilmiah dalam maupun luar negeri.

Jika Bapak setuju untuk berpartisipasi, maka diharapkan agar dapat menanda tangani surat persetujuan setelah penjelasan untuk mengikuti penelitian ini.

Atas kesediaan dan kerja samanya kami mengucapkan terima kasih.

Penanngung Jawab Peneliti
Nama   : dr. Antonia Anna Lukito, SpJP
Alamat Kantor   : Rumah Sakit Siloam ,
                           Jl.Siloam No 6, Karawaci
Telepon Kantor   : 021-5460055 ext.6607
No HP   : 02137262693

DISETUJUI OLEH
KOMISI ETIK PENELITIAN
KESEHATAN
FAK. KEDOKTERAN UNHAS
Tgl: 12 Mei 2010

LAMPIRAN 4

FORMULIR PERSETUJUAN MENGIKUTI PENELITIAN SETELAH MENDAPAT PENJELASAN

Saya yang bertandatangan dibawah ini :

Nama : ....

Umur : ....

Alamat : ....

Setelah mendengar/membaca dan mengerti penjelasan (Telah memahami Naskah Penjelasan Untuk

Responden) yang diberikan oleh ...., baik mengenai tujuan, manfaat apa yang akan

diperoleh pada penelitian ini, serta risiko yang mungkin terjadi, maka dengan ini saya menyatakan

setuju untuk ikut dalam penelitian ini secara sukarela tanpa paksaan.

Saya mengerti bahwa pengambilan darah dapat menimbulkan ketidak nyamanan, namun saya percaya

hal ini dapat diminimalkan dengan tata cara yang benar dan dilakukan oleh petugas yang terlatih.

Saya mengerti bahwa keikut sertaan saya ini bersikat sukarela tanpa paksaan, sehingga saya bisa

menolak ikut atau mengundurkan diri dari penelitian ini tanpa kehilangan hak saya untuk mendapat

pelayanan kesehatan. Juga saya berhak bertanya atau meminta penjelasan bila masih ada hal yang

belum jelas atau masih ada hal yang ingin saya ketahui tentang penelitian ini.

Saya juga mengerti bahwa semua biaya yang dikeluarkan sehubungan dengan pemeriksaan darah dalam penelitian ini, dan kemungkinan terjadinya hal-hal yang tidak diinginkan, menjadi beban peneliti. Apabila terjadiperselisihan akan diselesaikan secara musyawah untuk mencapai mufakat.

Tangerang,, ...2010

(Subyek penelitian)

NAMA	TANDA TANGAN
TGL/BLN/THN	

Saksi 1 ....

Saksi 2 ....

Penanggung Jawab Peneliti

Nama : dr.Antonia Anna Lukito, Sp.JP

Telp.   : 021-5460055 ext. 6607

No HP : 02137262693

<div style="border:1px solid black">

DISETUJUI OLEH

KOMISI ETIK PENELITIAN KESEHATAN

FAK. KEDOKTERAN UNHAS

Tgl: 12 Mei 2010

</div>

Lampiran 5

FORM KUESIONER PENELITIAN OBESITAS

No Pasien	: _____	Lingkar Perut	: _____
Nama Pasien	: _____	Tinggi Badan	: _____
Jenis Kelamin	: Laki-laki / Perempuan	Berat Badan	: _____
Umur	: _____	Tekanan Darah	: _____
No Telp / HP	: _____	Suhu Tubuh	: _____
E-mail	: _____		Demam / Tidak Demam
Alamat	: _____	Tgl Wawancara	: _____
	_____	Tgl Pengambilan	:
	_____	Sample / Jam	

Riwayat penyakit yang pernah diderita

Diabetes	:	Ya / Tidak
Hipertensi	:	Ya / Tidak
Riwayat PJK	:	Ya / Tidak
Dislipidemia	:	Ya / Tidak
Riwayat Keluarga Obesitas	:	Ya / Tidak
Penyakit/Gangguan Ginjal	:	Ya / Tidak
Hepatitis	:	Ya / Tidak
Gangguan Fungsi Hati	:	Ya / Tidak
Sakit Gigi	:	Ya / Tidak
Demam/Flu dalam 2 minggu Terakhir	:	Ya / Tidak

Obat / Suplemen yang sedang dikonsumsi dalam 2 minggu terakhir

Penurun Lipid	:	Ya / Tidak	Jenis Obat :
Kortikosteroid	:	Ya / Tidak	
Antibiotik	:	Ya / Tidak	
Suplemen / Vitamin / Antioksidan	:	Ya / Tidak	Jenis nya :
			Frekuensi :
Sedang dalam Terapi Pengobatan Lain	:	Ya / Tidak	Jenis Obat :

Rutinitas

Merokok	:	Ya / Tidak	Jumlah/hari :
Minum Alkohol	:	Ya / Tidak	Jumlah/hari :
Olah Raga	:	( ) < 1 kali seminggu	
		( ) 1-3 kali seminggu @ ___ jam	
		( ) > 4 kali seminggu @ ___ jam	

Lingkar Leher : _____cm

Lampiran 6

**FORMULIR PERMINTAAN PEMERIKSAAN LABORATORIUM –
KRITERIA INKLUSI**

No. ID : **No. Lab :** **Nama :** **Alamat :** **Usia / Tgl Lahir :** **Jenis Kelamin :**	**Dokter :** **Alamat :** **Tanggal :**
JENIS PEMERIKSAAN	
○ **Glukosa Sewaktu :**	○ **Serum Kreatinin :**
Tangerang 2010	
dr. Antonia Anna Lukito, SpJP	

**FORMULIR PERMINTAAN PEMERIKSAAN LABORATORIUM –
KRITERIA MEKANISME KALSIFIKASI ARTERI KORONER**

No. ID : No. Lab : Nama : Alamat : Usia / Tgl Lahir : Jenis Kelamin :	Dokter : Alamat : Tanggal :
JENIS PEMERIKSAAN	
o **Leptin** o **Soluble Leptin Receptor** o **F2-Isoprostane** o **BMP-2** o **MGP**	o **Kolesterol Total** o **Kolesterol-LDL** o **Kolesterol-HDL** o **Trigliserida** o **Insulin Puasa**
Tangerang 2010	
dr. Antonia Anna Lukito, SpJP	

Lampiran 7

BIODATA

PERSONAL DATA:
Name   : Antonia Anna Lukito, MD, SpJP, FIHA, FICA, FAPSIC, FSCAI
Place &DOB   : Jember, 17 September 1962
Religion   : Catholic
Email address : lukito_ant@yahoo.com
Office Address : Heart Center, Siloam Hospital Lippo Village
                       Siloam 6, Lippo Village, Tangerang, Banten, 15811
                       Tel   : +62-21-5460056
                       Fax   : +62-21-5914553

EDUCATION:
- Cardiology Dept, Medical Faculty University of Indonesia, Jakarta,1997
- Graduation Medical degree with honors, University of Airlangga, Surabaya,1988

FELLOWSHIP TRAINING:
- Advanced Cardiology Course, Victoria Heart Center, Epworth Hospital,
- Melbourne, Australia, 1996 & 2000
- Pacemaker & Interventional Cardiology Training, National Cardiac Center
- Harapan Kita, Jakarta, 2004
- Cardiovascular CT Training, Cologne, Germany, 2005
- Basic Vascular Ultrasound Interpretation Course, Society for Vascular
- Ultrasound, Singapore, 2007
- Board Review Course Interventional Cardiology , TCT, Washington DC, 2008
- Advance Intervention Asia Crossroad Training program, Tokyo, 2009
- Board Review Course Interventional Cardiology, TCT, San Francisco, 2009
- Pacemaker hands-on workshop, Jakarta, 2010
- ICD hands-on workshop, National Cardiac Center, Jakarta, 2011
- CRT hands-on workshop, National Cardiac Center, Jakarta, 2012
- Carotid Intervention Training, NTUH, Taipei, 2012
- Optical Coherence Tomography (OCT) Training, Satakunta Hospital, Finlandia, 2012

PERSONAL ACHIEVEMENT:
      Best graduate – Medical Faculty University of Airlangga, 1988

APPOINTMENTS:
- Heart Center, Siloam Hospital, Lippo Village, 1997 – present
- Lecturer at Medical Faculty,Pelita Harapan University,Lippo Village,2003 –
- present
- Cardiology Dept, Satya negara Hospital, Jakarta, 2004 - 2008
- Cardiology Dept, Pantai Indah Kapuk Hospital, Jakarta, 2001-2004
- Cardiology Dept, Dr.Slamet Hospital, Garut, 2000 – 2001

- Harapan Kita Hospital, National Cardiac Center, Jakarta, 1993-1997
- Lubuk Linggau Hospital, Sumsel, 1989 – 1992
- Dr. Soetomo Hospital, Surabaya, 1987 – 1988

PROFESSIONAL ORGANISATIONS:

- Scientific & Education Committee of Indonesian Heart Society (PERKI) branch of Banten
- Committee of Indonesian Heart Society (PERKI PUSAT)
- Fellow of Indonesian Heart Association (IHA)
- Fellow of The Society for Cardiovascular Angiography and Interventions (SCAI-USA)
- Fellow of Asia Pacific Society of Interventional Cardiology (APSIC)
- Fellow of International College of Angiology (ICA)
- Organizing Committee of Indonesian Society of Hypertension (InaSH)
- Organizing Committee of Indonesian Society of Interventional Cardiovascular (ISIC)
- Member of Women In Innovation (WIN-USA)
- Member of Ikatan Dokter Indonesia (Indonesian Medical Association)
- Committee of Yayasan Mahasiswa Penyayang Anak (Swayanaka) 1986 – 1988
- Member of Mahasiswa Pecinta Alam Universitas Airlangga (WANALA) 1984 - 1988

ABSTRACTS ACCEPTED / PAPERS PRESENTED:

1. Pulse Pressure Predicts Coronary Calcification Better than Other Blood Pressure Parameters in Women --WECAC (Women & Coronary Artery Calcium) Study (WCC, Dubai, 2012)
2. Cardiovascular Disease in Women: Case Discussion (21st ASMIHA, 2012)
3. Single-Pill is Crucial in Reducing Long-term Cardiovascular Risk (21st ASMIHA, 2012)
4. Achieving Lipid Target Goal with Early Time to Benefit and What Are the Reasons Behind It (APICD, 2011)
5. Choosing Agents to Manage Hypertensive Emergency by Evidence and Guidelines Approach (APICD 2011)
6. The Indonesia Siloam Registry 12 months Clinical Outcome :Titanium-Nitride-Oxide Coated Stents in Real World Experience (SCAI Scientific Meeting, Baltimore, 2011)
7. Indonesian 12 month Follow up of Bi-oactive stent registry (TCTAP, Seoul,2011)
8. CVD facts in Women (20th ASMIHA, 2011)
9. Benefit of Single Pill Combination as Two Proven Agents for Optimal Hypertension Management (20th ASMIHA, 2011)
10. Uncomplicated and Resistant Hypertension (InaSH workshop, 2011)
11. Ambulatory Blood Pressure Monitoring (InaSH workshop, 2011)
12. Siloam Indonesia Registry: One Year Outcome (Asia-PCR , Singapore, 2011)
13. 'How Would I Treat' Session (Asia-PCR , Singapore, 2011)
14. Siloam Indonesia Registry: 6 months outcome (Asia-PCR , Singapore, 2011)

15. Advocacy on Women Cardiovascular Health in Indonesia (18th Asean Congress of Cardiology, Cebu, Philippines, 2010)
16. The Importance on early Time to CV Benefit and What are the reason behind? (The 9th APICD Perki Banten, 2010)
17. Beyond BP Lowering Effect of Angiotensin II Receptor Blockers: Are They All The Same? (The 9th APICD Perki Banten, 2010)
18. Synthesis of Titanium-NO Coated Stent Registry (Asia-PCR I, Singapore, 2010)
19. Cardiac Function Improvement in Hypertension Treatment (The 4th InaSH Scientific Meeting, 2010)
20. Rescue CAS during brain tumor surgery (ICCA , Frankfurt, 2009)
21. Vulnerable Plaque to vulnerable patients (ISICAM Batam, 2009)
22. PCI with or without drug eluting stent:state of the art (The 8th APICD Perki Banten, 2009)
23. Molecular and vascular evidence in managing hypertension and dyslipidemia (The 8th APICD Perki Banten, 2009)
24. New evidence in cardiovascular protection (The 8th APICD Perki Banten, 2009)
25. Vascular Calcification: the reasons and mechanisms (The 3th InaSH Scientific Meeting, 2009)
26. Beyond Lipid Lowering :From Molecular to Clinical Outcome (The7[th] APICD Perki Banten 2008)
27. Basic management for chronic stable ischemia (The 7th APICD Perki Banten 2008)
28. The Impacts of Diurnal Variation in Hypertension (Perki Palembang Update, 2008)
29. Angina in Women (17th ASMIHA 2008)
30. Lipid lowering therapy in the very high risk patients:is monotherapy better than combination therapy? (Debate session,The 3rd East Indonesia Endo-Metabolic Update 2008)
31. The latest guidelines of acute coronary syndrome (All about chest pain seminar & Multidisciplines discussion, IDI Tangerang, 2007)
32. The Optimal treatment of hypertension with multiple risk factors (The 1st InaSH Scientific Meeting, 2007)
33. Plaque regression: a dream comes true? (The 6th APICD Perki Banten 2007)
34. (The 6th APICD Perki Banten 2007)
35. The New Strategy in Hypertension manahgement (The 5th APICD Perki Banten 2006)
36. Managing Dyslipidemia: the lower's is the better? (The 5th APICD Perki Banten 2006)
37. ACEI or ARB, which is better?(Debate Session, Pharmacology Update 2005)
38. (The 4th APICD Perki Banten 2005)
39. The Value and Supremacy of BP Control for Cardiovascular Protection (PERKI Cirebon Scientific Meeting, 2004)
40. Vascular effects of Statin: Halting atherosclerosis progression with intensive treatment (The 3rd APICD Perki Banten 2004)
41. The Important of Compliance in the Clinical Practice (Pharmacology update 2004)

42. The Recent Roles of CCB in Hypertension Management (Pharmacology Update 2003)
43. (The 2nd APICD Perki Banten 2003)
44. (The 1st APICD Perki Banten 2002)
45. (Rupture of an Aneurysm of the Coeliac Artery in a Patient with Previous Infective Endocarditis (Asean Congress of Cardiology XIII, Singapore,2000)
46. Cardiopulmonary Exercise Test in Children Following Surgery for Tetralogy of Fallot and its relationship to Age at Surgery (Asean Congress of Cardiology XII, 1997)
47. Correlations between Surface Electrocardiography and Segmental Wall Motion Analysis (Asia Pacific Congress of Cardiology XI, 1995)
48. Apical Hypertrophic Cardiomyopathy: clinical manifestations (APCC XI, 1995)
49. Correction Surgery of DORV-VSD non committed dan Stenosis Pulmonal (National Congress PERKI VII,1994)

PUBLICATIONS /CONTRIBUTORS:
1. Consensus of Total Cardiovascular Risk in Hypertension (InaSH 2012)
2. The Indonesia Siloam Registry 12 months Clinical Outcome :Titanium-Nitride-Oxide Coated Stents in Real World Experience [Journal of Catheterization & Cardiovascular Interventions May 1, 2011 ;77(6):S126]
3. The Indonesia Siloam Registry 6 months Clinical Outcome :Titanium-Nitride-Oxide Coated Stents in Real World Experience [Journal of EuroIntervention 2011 Supplement ;7:M72]
4. Indonesian 12 month Follow up of Bi-oactive stent registry [Am J Cardiol Supplement 2011;107(8A):19A]
5. Guidebook: Atherosclerosis &Thrombosis (PERKI Banten, 2011)
6. Consensus of Lifestyle Modification Recommendation in Hypertension (InaSH 2011)
7. Guidebook: Cardiovascular Emergency (PERKI Banten, 2010)
8. Acute Coronary Syndrome National Guidelines (PERKI, 2009)
9. Consensus of Hypertension management in Elderly population (InaSH 2009)
10. Guide book: Acute coronary syndrome (PERKI Banten, 2009)
11. Crisis Hypertension: Executive Summary (InaSH 2008)
12. Guide book: Diagnostic modalities and medical procedures in Cardiovascular Disease (PERKI Banten 2008)
13. Guide book: Practical ECG Readings in Daily Practice (PERKI Banten, 2007)
14. Guide book: Drugs for The Heart (PERKI Banten, 2006)
15. Guide book: Recognition of Cardiac symptoms in Daily Practice (PERKI Banten, 2005)
16. Guide book: Diagnosis and Management of Coronary Heart Disease in Daily Practice (PERKI Banten, 2004)
17. Guide book: Diagnosis and Management of Hypertension in Daily Practice (PERKI Banten, 2003)
18. Guide book: Diagnosis dan Management of Heart Failure in Daily Practice (PERKI Banten, 2002)
19. Rupture of an Aneurysm of the Coeliac Artery in a Patient with Previous Infective Endocarditis (Asean Congress of Cardiology XIII, 2000)

20. Cardiopulmonary Exercise Test in Children Following Surgery for Tetralogy of Fallot and its relationship to Age at Surgery (Asean Congress of Cardiology XII, 1997)
21. Return to Work: after Cardiac Event (Jurnal Kardiologi Indonesia, 1996)
22. Correlations between Surface Electrocardiography and Segmental Wall Motion Analysis (Asia Pacific Congress of Cardiology XI, 1995)
23. Apical Hypertrophic Cardiomyopathy: clinical manifestations (APCC XI, 1995)
24. Correction Surgery of DORV-VSD non committed dan Stenosis Pulmonal (Kongres Nasional PERKI VII,1994)

Lampiran 8

PERNYATAAN PUBLIKASI

Sebagian dari tema penelitian atau hasil penelitian yang dilaporkan dalam disertasi ini telah dipublikasi atau dipresentasikan pada:

1. Lukito AA, Wijaya A, Kabo P, Bakri S: "*Correlation between Systemic Arterial Hypertension and Bone Morphogenetic Protein-2 in Central-Obese Non-Diabetic Men with Evidence of Coronary Artery Calcification*" di Indonesia Biomedical Journal 2012;Vol 4 (No.2), *Accepted letter* tertanggal 21 Maret 2012.

2. Lukito AA, Wijaya A, Kabo P, Bakri S: *"Pulse pressure predict coronary calcification better than other blood pressure parameters in women"* telah dipresentasikan secara oral di World Congress of Cardiology, Dubai, 19 April 2012.

3. Lukito AA, Wijaya A, Kabo P, Bakri S: *"Pulse pressure predict coronary calcification better than other blood pressure parameters in women"* *Accepted* di Circulation Journal, *abstract in press*, 2012.

4. Lukito AA, Wijaya A, Kabo P, Bakri S: "*Predictors of Coronary Calcification, Is There Any Difference Between Younger And Older Asian Population?"* di Journal of Hypertension*. In Reviewing process, submission letter* tertanggal 30 April 2012.

5. Lukito AA, Wijaya A, Kabo P, Bakri S: *"Neck Circumference Correlates to Coronary Calcification Better Than BMI And Waist Circumference in Insulin Resistance Obese Subjects"* di Jurnal Kardiologi Indonesia. *Accepted letter* tertanggal Mei 2012.

6. Lukito AA, Wijaya A, Kabo P, Bakri S: *"Pulse pressure predict coronary calcification better than other blood pressure parameters in women"* di Circulation Journal, *Fulltext Submission letter* tertanggal May 2012.