

## DAFTAR PUSTAKA

- Abrahamson DR. 2009. Development of kidney glomerular endothelial cells and their role in basement membrane assembly. *Organogenesis*. 5: 1,275-87.
- Aggarwal PK, Jain V, Sakhuja V, Karumanchi SA, Jha V. 2006. Low urinary placental growth factor is a marker of preeclampsia. *Kidney Int*. 69:621-624
- Agudelo AC, Romero R, Lindheimer MD. 2009. Tests to Predict Preeclampsia. *Chesley's Hypertensive Disorders in Pregnancy*. 11: 189-203.
- Alexander BT, Bennet WA, Khalil RA, Granger JP. 2001. Preeclampsia: Linking placental ischemia with cardiovascular renal dysfunction. *New Physiology Science*. 16
- Andraweera PH, Dekker GA, Roberts CT. 2012. The vascular endothelial growth factor family in adverse pregnancy outcomes. *Hum Reprod Update*. 18(4):436-57
- Angsar MD. 2003. Hipertensi dalam kehamilan. Edisi II. Lab/SMF Obstetri dan Ginekologi FK Unair/RSUD Dr. Soetomo Surabaya.
- Barisoni L, Mundel P. 2003. Podocyte Biology and the Emerging Understanding of Podocyte Disease. *Am J Nephrol*. 23: 353-60.
- Barisoni L, Schnaper HW, Kopp JB. 2007. A Proposed Taxonomy for the Podocytopathies : A reassessment of the Primary Nephrotic Diseases. *Clin J Am Soc Nephrol*. 2: 529-42.

Bayuningrat IGN Made. 2010. Perbedaan rerata sel podosit urin pada wanita hamil normal dan preeklampsia. <http://www.Bayuningrat.blogspot.com/>

Buhimschi CS, Norwitz ER, Funai E, Richman S, Guller S, Lockwood CJ, Buhimschi IA. 2005. Urinary angiogenic factors cluster hypertensive disorders and identify women with severe preeclampsia. *Am J Obstet Gynecol.* 192: 734-41.

Chaiworapongsa T, Romero R, Espinoza J, Bujold E, Mee Kim Y, Goncalves LF, Gomez R, Edwin S. 2004. Evidence supporting a role blockade of the vascular endothelial growth factor system in the pathophysiology of preeclampsia. Young Investigator Award. *Am J Obstet Gynecol.* 190:1541-7; discussion 1547-50.

Chuang PY, He JC. 2009. Signaling in Regulation of Podocyte Phenotype. *Nephron Physiology.* 111: p9-p15.

Chen Yu. 2009. Novel Angiogenic Factors for Predicting Preeclampsia: sFlt-1, PlGF, and Soluble Endoglin. *The Open Clinical Chemistry Journal.* 2:1-6.

Cohen A, Lin KH, Lee Y, Rana S, Karumanchi A, Brown F. 2007. Circulating Levels of the Antiangiogenic Marker Soluble FMS-Like Tyrosine Kinase 1 Are Elevated in Women With Pregestational Diabetes and Preeclampsia : angiogenic marker in preeclampsia and preexisting diabetes. *Diabetes Care.* 30 (2) : 375-7

Craici JM, Wagner SJ, Bailey KR, Fitz-Gibbon PD, Wood-Wentz CM, Turner ST, Hayman SR, White WM, Brost BC, Rose CH, Grande JP, Garovic VD. 2013. Podocyturia Predates Proteinuria and Clinical Features of

Preeclampsia: Longitudinal Prospective Study. *Hypertension*. 61:1289-1296.

Datta K, Li JP, Karumanchi SA, Wang EF, Rondeau E, Mukhopadhyay D. 2004. Regulation of vascular permeability factor/vascular endothelial growth factor (VPF/VEGF-A) expression in podocytes. *Kidney Int*. 66: 1471- 8.

Davison JM, Homuth V, Jeyabalan A, Conrad KP, Karumanchi SA Quaggin S, Dechend R, Luft FC. 2004. New aspects in the pathophysiology on preeclampsia. *J Am Soc Nephrol*. 15; 2440-8

Dekker G, Robillard PY. 2007. Pre-eclampsia: Is the immune maladaptation hypothesis still standing? An epidemiological update. *J Reprod Immunol*. 76: 8–16.

Eiland E, Nzerue C, Faulkner M. 2012. Preeclampsia 2012. *J Pregnancy*. Article ID 586578

Eremina V, Baelde HJ, Quaggin SE. 2007. Role of the VEGF-A Signaling Pathway in the Glomerulus: Evidence for crosstalk between components of the Glomerular Filtration Barrier. *Nephron Physiol*. 106: p32-7.

Erez O, Romero R, Espinoza J, Fu WJ, Todem D, Kusanovic JP, Gotsch F, Edwin S, Nien JK, Chaiworapongsa T, Mittal P, Mazaki-Tovi S, Than NG, Gomez R, Hassan S. 2008. The change in concentrations of antiangiogenic and anti angiogenic factors in maternal plasma between the first and second trimesters in risk assessment for the subsequent development of preeclampsia and small for gestational age. *J Matern Fetal Neonatal Med*. May 21(5):279-87.

Fan X, Rai A, Kambham N, Sung JF, Singh N, Pettitt M, Dhal S, Agrawal R, Sutton RE, Druzin ML, Gambhir SS, Ambati BK, Cross JC, Nayak NR. 2014. Endometrial VEGF induces placental sFlt1 and leads to pregnancy complications. *J Clin Invest.* 124(11): 4941-4952.

Fogo AB. 2009. The multi-talented podocyte. *Nephrol Dial Transplant.* 24: 3269-70.

Gao J, Shen J, Jiang Y, Zhou X, Qi H, Liu X, Liu J, Yang J, Bian X. 2014 . Value of second trimester maternal serum sFlt-1, PIGF, and their ratio in the prediction of preeclampsia. *Zhonghua Fu Chan Ke Za Zhi.* Jan:49(1):22-5.(abstract)

Garovic VD, Wagner SJ, Petrovic LM, Gray CE, Hall P, Sugimoto H, Kalluri R, Grande JP. 2007. Glomerular expression of nephrin and synaptopodin, but not podocin , is decreased in kidney sections from women with preeclampsia. *Nephrol Dial Transplant.* 22:1136-43.

Garovic VD, Wagner SJ, Turner ST, Rosenthal DW, Watson WJ, Brost BC, Rose CH, Gavrilova L, Craigo P, Bailey KR, Achenbach J, Schiffer M, Grande JP. 2007. Urinary podocyte excretion as a marker for preeclampsia. *Am J Obstet Gynecol.* 196:320.e1-320.e7.

GBD 2013 Mortality and Causes of Death. 2014. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet.* doi:10.1016/S0140-6736(14)61682-2.

Graaf AM, Toering TJ, Faas MM, Lely AT. 2012. From preeclampsia to renal disease: a role of angiogenic factors and the renin-angiotensin aldosterone system? *Nephrol Dial Transplant.* 27(supple 3): iii51-iii57.

- Hara M, Yanagihara T, Kihara I, Higashi K, Fujimoto K, Kajita T. 2005. Apical cell membranes are shed into urine from injured podocyte: a novel phenomenon of podocyte injury. *J Am Soc Nephrol.* 16: 408-16.
- Hassan MF, Rund NM, Salama AH. 2013. An elevated maternal plasma soluble fms-like tyrosine kinase-1 to placental growth factor ratio at midtrimester is a useful predictor for preeclampsia. *Obstet Gyn Int.* Article ID 202346
- Hladunewich M. 2005. Renal Injury and Recovery in Pre-eclampsia. *Fetal and Maternal Medicine Review.* 16:4 323-341
- Hladunewich M, Karumanchi SA, Lafayette R. 2007. Pathophysiology of the clinical manifestations of preeclampsia. *Clin J Am Soc Nephrol.* 2:543-549
- Irgens LM. 2007. Commentary: On the clinical prediction of pre-eclampsia and its enigmatic aetiology. *Int J Epidemiol.* 1-2
- Jim B, Jean-Louis P, Qipo A, Garry D, Mian S, Matos T, Provenzano C, Acharya A. 2012. Podocyturia as a diagnostic marker for preeclampsia amongst high-risk pregnant patients. *J Pregnancy.* Article ID 984630. doi:10.1155/2012/984630
- Kalluri R. 2006. Proteinuria with and without Renal Glomerular Podocyte Effacement. Young Investigator Award Lecture. *J Am Soc Nephrol.* 17: 2383-9.
- Karumanchi SA, Epstein FH. 2007. Placental ischemia and soluble fms-like tyrosine kinase-1: cause or consequence of preeclampsia? *Kidney Int.* 71: 959-61.

- Karumanchi SA, Lindheimer MD. 2007. Preeclampsia and the Kidney : footprints in the urine. *Am J Obstet Gynecol.* 287-288
- Karumanchi SA, Lindheimer MD. 2008. Preeclampsia Pathogenesis: "Triple A Rating" - Autoantibodies and AntiAngiogenic Factors. *Hypertension* .51, 91-992
- Kenny LC, Broadhurst DI, Dunn W, Brown M, North RA, McCowan L, Roberts C, Copper GJS, Kell DB, Baker PN. 2010. Robust Early Pregnancy Prediction of Later Preeclampsia Using Metabolomic Biomarkers. *Hypertension.* 56: 741-9.
- Kreidberg JA. 2003. Podocyte Differentiation and Glomerulogenesis. *J Am Soc Nephrol.* 14: 806-14.
- Kusanovic JP, Romero R, Chaiworapongsa T, Erez O, Mittal P, Vaisbuch E, Mazaki-Tovi S, Gotsch F, Edwin SS, Gomez R, Yeo L, Conde-Agudelo A, Hassan SS. 2009. A prospective cohort study of the value of maternal plasma concentration of angiogenic and anti-angiogenic factors in early pregnancy and midtrimester in the identification of patients destined to develop preeclampsia. *J Matern Fetal Neonatal Med.* 22(11):1021-1038.
- Levine RJ, Lam C, Qian C, Yu KF, Maynard SE, Sachs BP, Sibai BM, Epstein FH, Romero R, Thadhani R. 2006. Soluble endoglin and other circulating antiangiogenic factors in preeclampsia. *N Engl J Med.* 355, 992-1005
- Levine RJ, Thadhani R, Qian C, Lam Chun, Lim KH, Yu KF, Blink AL, Sachs BP, Epstein FH, Sibai BM, Sukhatme VP, Karumanchi SA. 2005. Urinary Placental Growth Factor and Risk of Preeclampsia. *JAMA.* 293: 77- 85.

- Lim JH, Kim SY, Park SY, Yang JH, Kim MY, Ryu HM. 2008. Effective Prediction of Preeclampsia by a Combined Ratio of Angiogenesis-Related Factors. *Obstet Gynecol.* 111, 1403-1409
- Matthews JNS, Altman DG, Campbell MJ, Royston P. 1990. Analysis of serial measurements in medical research. *Br Med J.* 300; 230-5.
- Maynard SE, Min JY, Merchan J, Lim KH, Li J, Mondal S, Libermann TA, Morgan JP, Sellke FW, Stilman IE, Epstein FH, Sukatme VP, Karumanchi SA. 2003. Excess placental soluble fms-like tyrosine kinase 1 (sFlt-1) may contribute to endothelial dysfunction, hypertension, and proteinuria in preeclampsia. *J Clin Invest.* 111; 649-658.
- Menzel S, Moeller MJ. 2011. Role of the Podocyte in Proteinuria. *Pediatr Nephrol.* 26: 1775-1780
- Muller-Deile J, Schiffer M. 2011. Renal involvement in Preeclampsia: Similarities to VEGF ablation therapy. *J Pregnancy.* Article ID 176973.
- Mundel P, Shankland SJ. 2002. Podocyte biology and response to injury. *J Am Soc Nephrol.* 13: 3005-15.
- Murphy SR, Cockrell K. 2015. Regulation of soluble fms-like tyrosine kinase-1 production in response to placental ischemia/hypoxia: role of angiotensin II. *Physiol Rep.* 3(2):e12310.
- National High Blood Pressure Education Program Working Group on High Blood Pressure in Pregnancy . 2000. *Am J Obstet Gynecol.* 183:S1-22
- Noris M, Perico N, Remuzzi G. 2005. Mechanisms of disease: pre-eclampsia. *Nature Clinical Practice.* Dec Vol 1. No 2. 98- 114
- Ohkuchi A, Hirashima C, Matsubara S, Takahashi K, Matsuda Y, Suzuki M. 2011. Threshold of soluble fms-like tyrosine kinase 1/ Placental growth

factor ratio for imminent onset of preeclampsia. *Hypertension*. 58(5): 859-66.

Powe CE, Levine RJ, Karumanchi SA. 2011. Preeclampsia, a disease of the maternal Endothelium: The role of antiangiogenics factors and implications for later cardiovascular disease. *Circulation*. 123:2856-2869.

Quantikine® ELISA Human VEGF, Human PIGF, Human sVEGFR1/Flt-1 Catalog Number DVE00, SVE00, PDVE00, DPG00, SPG00, PDPG00, DVR100B, SVR100B, PDVR100B. R&D Systems, Inc., Minneapolis, USA.

Rana S, Karumanchi SA, Levine RJ, Venkatesha S, Rauh-Hain JA, Tamez H, Thadhani R. 2007. Sequential changes in antiangiogenic factors in early pregnancy and risk of developing preeclampsia. *Hypertension*. 50:137-142.

Redman CW, Sargent IL. 2005. Latest Advances in Understanding Preeclampsia. *Science*. 308:1592-4.

Ritchie A, Brown MA. 2010. Proteinuria in Preeclampsia: From Bench to Bedside. 21: 1-23

Roberts JM, Hubel CA. 2009. The Two Stage Model of Preeclampsia : Variations on the Theme. *Placenta*. 23: S32-S37.

Roes EM, Steegers EA, Thomas CM, Geurts-Moespot A, Raijmakers MT, Peters WH, Sweep CG. 2004. High levels of urinary vascular endothelial growth factor in women with severe preeclampsia. *Int J Biol Markers*. 19(1): 72-5.

- Rolfo A, Attini R, Nuzzo AM, Piazzese A, Parisi S, Ferraresi M, Todros T, Piccoli G. 2012. Chronic Kidney Disease may be differentially diagnosed from preeclampsia by serum biomarkers. *Kidney Int.* 83: 177-181
- Semenza GL. 1998. Hypoxia-inducible factor 1: master regulator of O<sub>2</sub> homeostasis. *Curr Opin Genet Dev.* 8: 588-594
- Shankland SJ. 2006. The podocyte's response to injury: Role in proteinuria and glomerulosclerosis. *Kidney Int.* 26:2131-47.
- Sibai BM. 2003. Diagnosis and management of gestational hypertension and Preeclampsia. *Obstet Gynecol.* 102;1.181-92.
- Sibai BM, Dekker G, Kupferminc M. 2005. Pre-eclampsia. *Lancet.* 365(9461);785-799
- Simas TA, Crawford SL, Solitro MJ, Frost SC, Meyer BA, Maynard SE. 2007. Angiogenic factors for prediction of preeclampsia in high risk women. *Am J Obstet Gynecol.* 197:244.e1-8
- Stillman IE, Karumanchi SA. 2007. The glomerular injury of preeclampsia. *J Am Soc Nephrol.* 18:2281-4
- Sugimoto H, Hamano Y, Charytan D, Cosgrove D, Kieran M, Sudhakar A, Kalluri R. 2003. Neutralization of circulating vascular Endothelial Growth Factor (VEGF) by Anti-VEGF antibodies and soluble VEGF receptor 1 (sFlt-1) induces proteinuria. *J Biol Chem.* 11: 12605-8.
- Thadhani RI, Johnson RJ, and Karumanchi SA. 2005. Hypertension During Pregnancy: A Disorder Begging for Pathophysiological Support. *Hypertension.* 46:1250-1251.

Thadhani R, Mutter WP, Wolf M, Levine RJ, Taylor RN, Sukhatme VP, Ecker J, Karumanchi SA. 2004. First trimester Placental Growth Factor and soluble fms-Like Tyrosine Kinase 1 and risk for preeclampsia. *J Clin Endocrinol Metab.* 89: 770-5.

USCN Life Science Inc. ELISA kit for Podocin, Catalog number SEA938Hu. Cloud-Clone Corp., Houston , USA.

Vogelmann SU, Nelson WJ, Myers BD, Lemley KV. 2003. Urinary excretion of viable podocytes in health and renal disease. *Am J Physiol* . 285: F40-F48.

Wang A, Rana S, Karumanchi A. 2009. Preeclampsia: The role of Angiogenic Factors in Its Pathogenesis. *Physiology.* 24: 147-58.

White WM, Garrett AT, Craici IM, Wagner SJ, Fitz-Gibbon PD, Butters KA, Brost BC, Rose CH, Grande JP, Garovic VD. 2014. Persistent urinary podocyte loss following preeclampsia may reflect subclinical renal injury. *PLoS ONE.* 9(3): e92693

Wikstrom AK, Larsson A, Eriksson UJ, Nash P, Norden-Lindeberg S, Olovsson M. 2007. Placental Growth Factor and Soluble FMS-Like Tyrosine Kinase-1 in Early-Onset and Late-Onset Preeclampsia. *Obstet Gynecol.* 109, 1368-74

Wu FT, Stefanini MO, Gabhann FM, Kontos CD, Annex BH, Popel AS. 2010. A systems biology perspective on sVEGFR1: its biological function, pathogenic role and therapeutic use. *J Cell Mol Med.* 14(3):5288-552

Yuan HT, Haig D, Karumanchi SA. 2005. Angiogenic Factors in the pathogenesis of preeclampsia. *Curr Top Dev Biol.* 71: 297-312.

Yu D, Petermann A, Kunter U, Rong S, Shankland SJ, Floege J. 2005. Urinary podocyte loss is a more specific marker of ongoing glomerular damage than proteinuria. *J Am Soc Nephrol.* 16 : 1733-41.