

BAB 5

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan hasil penelitian kajian pustaka dari 8 jurnal ilmiah terkait Efek pleiotropik dan efek samping golongan statin pada pasien penyakit jantung koroner dapat disimpulkan bahwa:

1. Efek anti dislipidemia ditunjukkan penurunan LDL pada atorvastatin (1x20-80 mg) po sebesar 52,1% - 64,6% dan pada rosuvastatin (1x20-40 mg) po sebesar 53,1% - 66,6%. Efek anti inflamasi ditunjukkan penurunan hs-CRP pada atorvastatin (1x20-80 mg) po sebesar 35,4% - 85,8% dan pada rosuvastatin (1x20-40 mg) po sebesar 51,8% - 60,4%, serta penurunan Interleukin-6 pada atorvastatin (1x80 mg) po sebesar 52,5% dan pada rosuvastatin (1x20 mg) po sebesar 58,9%. Efek anti platelet simvastatin atau atorvastatin atau pravastatin (1x40 mg) po menunjukkan penghambatan agregasi platelet yang diinduksi ADP sebesar 24% dan AA sebesar 13%
2. Efek samping mialgia simvastatin atau atorvastatin (1x40-80 mg) po ditunjukkan peningkatan nilai kreatin kinase sebesar 27,6%.

5.2 Saran

Sebaiknya peneliti selanjutnya mengamati pengaruh penggunaan obat golongan statin dengan kombinasi terapi lain terhadap kadar CRP, ADP-*Induce aggregation*, dan kreatinin kinase pada pasien penyakit jantung koroner.

DAFTAR PUSTAKA

- AbdulRazzaq, H.A., Aziz, N.A., Hassan, Y., Kassab, Y.W., and Ismail, O., 2012. Predictor of The Common Adverse Drug Reactions of Statins. *Dyslipidemia-From Prevention to Treatment*.
- Aberg, J.A., Lacy, C., Armstrong, L., Goldman, M. And Lance, L.L. 2009. *Drug Information Handbook 17th Edition*. American Pharmacist Association.
- AHFS, 2011. *AHFS Drug Information*, Bethesda: American Society of Health System Pharmacists.
- Altun, I., Oz, F., Arkaya, S.C., Ilknur, A., Bilge, A.K., Umman, B., and Turkoglu, U.M., 2014. Effect of Statins on Endothelial Function in Patients With Acute Coronary Syndrome: A Prospective Study Using Adhesion Molecules and Flow-Mediated Dilatation. *Journal of Clinical Medicine Research*. 2014;6(5):354-361.
- Aydin, M.U., Aygul, N., Altunkeser, B.B., Unlu, A., Taner, A., 2015. Comparative effects of high-dose atorvastatin versus moderate-dose rosuvastatin on lipid parameters, oxidized-LDL and inflammatory markers in ST elevation myocardial infarction, *Journal of Atherosclerosis*, 239(2):439–443.
- Bhatt, D.L., Topol, J.E., 2002. Need to Test the Arterial Inflammation hypothesis. *American Heart Association Journal*. 106: 136-140
- Brayfield, A., 2014. *Martindale The Complete Drug Reference 38th*. Pharmaceutical Press. London.
- Brunton, L.L., Parker, K.L., Blumenthal, D., Boxton, I., 2008. General Principle. *Goodman and Gilman's manual of pharmacology and therapeutics*. California: McGraw-Hill.
- Campolongo, G., Valentina, C., Raparelli, V., Spoletini, I., Marazzi, G., Vitale, C., Volterrani, M., 2016. The combination of nutraceutical and simvastatin enhances the effect of simvastatin alone in normalising lipid profile without side effects in patients with ischemic heart disease. *International Journal of Cardiology Metabolic and Endocrine*. 11:3-6.
- Chalik, Raimundus., 2016. *Anatomi Fisiologi Manusia*. Jakarta: Kementerian Kesehatan Republik Indonesia.

- Davignon, J., 2004. Benefical cardiovascular pleiotropic effect of statins. *Circulation*.
- DiDomenico, R.J., 2020. ‘Acute Coronary Syndrome’ in J.T. Dipiro. *Pharmacotherapy Handbook* Eleventh Edition. McGraw-Hill Education. New York, Pp 33.
- Dixon, D., and Riche, D., 2020. ‘Dislipidemia’ in J.T. Dipiro. *Pharmacotherapy Handbook* Eleventh Edition, McGraw-Hill Education. New York. Pp 31.
- Frits R.W.S., Medisa, I., Patricia, dan Timothy, E. 2018. Prevalensi dan Faktor Risiko Sindrom Koroner Akut di Rumah Sakit Umum Universitas Kristen Indonesia. *Majalah Kedokteran Universitas Kristen Indonesia*. **34:3**.
- Gao, Z., 2019. Gender Differences in Cardiovascular Disease. *Medicine in Novel Technology and Devices*. **4**: 2-4.
- Hall, J.E., 2016. Guyton and Hall. *Textbook of Medical Physiology*. 13th ed. Philadelphia (PA): Elsevier, Inc
- Kemenkes, R.I., 2017. *Buku Panduan Penilaian Teknologi Kesehatan*. Jakarta: Komite Penilaian Teknologi Kesehatan.
- Knuuti, J., 2019. ESC Guidelines for the Diagnosis and Management of Chronic Coronary Syndromes, *European Heart Journal*.
- Kumar, B., Shah, M.A.A., Kumar, R., Kumar, J., Memon, A., 2019. Comparison of Atorvastatin and Rosuvastatin in Reduction of Inflammatory Biomarkers in Patients with Acute Coronary Syndrome. *Cureus Journal*. **11(6)**:e4898.
- Lilly, L.S., 2016. *Pathophysiology of heart disease*. China: Lippincott Williams & Wilkins.
- MacLaughlin, E., and Saseen, J., 2020. ‘Hypertension’ in J.T. Dipiro. *Pharmacotherapy Handbook* Eleventh Edition. McGraw-Hill Education. New York. Pp 30.
- Majid, A., 2007. Penyakit Jantung Koroner: Patofisiologi, Pencegahan, dan Pengobatan Terkini. Medan: Universitas Sumatera Utara.
- Malutu, H., Joseph, V.F.F., and Pangemanan, J., 2016. Gambaran Kadar Glukosa Darah Pada Pasien Ska Di Rsup Prof Dr. R.D. Kandou Manado Periode Januari – Desember 2014. *E-CliniC*, **4(1)**.

- Malloy, M.J., and Kane, J.P., 2014. *Farmakologi Dasar dan Klinik vol. 2 Edisi 12*. Penerbit buku kedokteran ECG. Jakarta
- Matetzky, S., Fefer, P., Shenkman, B., Shechter, M., Novikov, I., Savion, N., Varon, D., and Hod, H., 2011. Statins have an early antiplatelet effect in patients with acute myocardial infarction. *Platelets*. **22**(2): 103–110
- Meier-Ewert, H.K., Ridker, P.M., Rifai, N., 2001. Absence of diurnal variation of C-reactive protein concentrations in healthy human subjects. *Clin Chem* **47**: 426–430.
- Noor, M.D., 2010. Proporsi Indeks Massa Tubuh Penderita Penyakit Jantung Koroner di RSUP Haji Adam Malik Medan. Medan: Universitas Sumatera Utara.
- Nursalam, 2020. *Penulisan Literature Review Dan Systematic Review Pada Pendidikan*, Fakultas Keperawatan Universitas Airlangga. Surabaya.
- Perki, 2018. *Pedoman Tata Laksana Sindrom Koroner Akut 2018*. Perhimpunan Dokter Spesialis Kardiovaskular Indonesia.
- Puccetti, L., Sawamura, T., Pasqui, A.L., Pastorelli, M., Auteri, A., Bruni, F., 2005. Atorvastatin mengurangi ekspresi reseptor LDL teroksidasi trombosit pada pasien hipercolesterolemia. *Eur J Clin Invest*; **35**:47-51.
- Rang, H.P., Ritter, J.M., Flower, R.J., and Henderson, G., 2016. *Rang's and Dale's Pharmacology*. Edisi 8. Philadelphia: Elsevier Inc.
- Ridker, P.M., Cannon, C.P., Morrow, D., Rifai. N., Rose, L.M., 2001. C-Reacnve Protein Levels and Outcomes after Statin Therapy N Eng J Med. **325**: 20-28.
- Rodgers, J.L., 2019. Cardiovascular Risks Associated with Gender and Aging. *Journal of Cardiovascular Development and Disease*, **6**:2-18.
- Rosita, I., Andrajati, R., Zainuddin, 2014. Efek Samping Nyeri Otot Simvastatin dan atorvastatin pada Pasien Jantung RSUD Tarakan, Fakultas Farmasi Universitas Indonesia; Jakarta.
- Sakakura, K., Nakano, M., Otsuka, F., Ladich, E., Kolodgie, F.D., and Virmani, R., 2013. Pathophysiology of atherosclerosis plaque progression. *Heart, Lung and Circulation*, **22**(6), 399-411.

- Sherwood, L., 2014. *Fisiologi manusia : dari sel ke sistem*, Edisi 8, Jakarta: EGC
- Shimokawa, H., Takeshita, A., 2005. Rho-kinase adalah target terapi penting dalam pengobatan kardiovaskular. *Arterioskler Tromb Vasc Biol.* **25**:1767–1775.
- Snyder, H., 2019. Literature Review As a Research Methodology: An Overview and Guidelines. *Journal of Business Research*. pp 334-338.
- Sweetman, S.C., 2009. *Martindale 36th*. The Pharmaceutical Press, London.
- Thompson, P., Clarkson, P., & Karas, R., 2003. Statin-Associated Myopathy. *JAMA*. **289**:1681-1.
- Tjahjono, M., Irawati, L., 2018. ‘Dislipidemia’ in *Penyakit Kardiovaskular : Seri Pengobatan Rasional*. Yogyakarta: Graha Ilmu.
- Tomlinson., Susan, S., and Mangione., Kathleen, K., 2005. Potential Adverse Effect of Statins on Muscle, Journal of The American Physical Therapy Association. **85**, 459–465
- Trujillo, J., and Haines, S., 2020. ‘Diabetes Mellitus’ in J. T. Dipiro. *Pharmacotherapy Handbook* Eleventh Edition. McGraw-Hill Education. New York.
- Umrani, S., Jamshed, W., Rizwan, A., 2020. Comparison of Atorvastatin and Rosuvastatin in Reduction of Inflammatory Markers in Acute Coronary Syndrome, *Cureus*. **12(11)**: e11760.
- WHO, 2021. Cardiovascular diseases (CVDs), Diakses pada tanggal 5 November 2021, [https://www.who.int/en/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/en/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)).