

## DAFTAR PUSTAKA

- Abdel Fattah, S., El-Hamshary, N.K. & Kilany, Y.F. 2012. Prognostic and Predictive Values of Meld Score , Platelet Count and Pre Albumin in Patients with Compensated and Decompensated Liver Cirrhosis with Acute Variceal Bleeding. *J. Egypt. Soc. Parasitol*, 42(2): 443–452.
- Adams, L.A., Bulsara, M., Rossi, E., DeBoer, B., Speers, D., George, J., Kench, J., Farrell, G., McCaughan, G.W. & Jeffrey, G.P. 2005. Hepascore: An accurate validated predictor of liver fibrosis in chronic hepatitis C infection. *Clin Chem*, 51(10): 1867–1873.
- Al-hamoudi, W. 2010. Cardiovascular changes in cirrhosis: Pathogenesis and clinical implications. *SJG*, 16(3): 145.
- Al-Jumaily, E.F. & Khaleel, F.M. 2012. The Effect of Chronic Liver Diseases on Some Biochemical Parameters in Patients Serum. *Curr. Res. J. Biol. Sci*, 4(5): 638–642.
- Ala, A., Dhillon, A. & Hodgson, H.J. 2003. Role of cell adhesion molecules in leukocyte recruitment in the liver and gut. *IJEP*, 84(1): 1–16.
- Amirudin, R. 2012. Fibrosis hati. In Sulaiman, Akbar, Lesmana, & Noer, eds. *Buku Ajar Ilmu Penyakit Hati*. Jakarta : CV Sagung Seto: pp: 341-345.
- Angeli, P. & Gines, P. 2012. Hepatorenal syndrome, MELD score and liver transplantation: An evolving issue with relevant implications for clinical practice. *J Hepatol*, 57(5): 1135–1140.
- Ash, D.E. 2004. Structure and function of arginases. *J Nutr*, 134: 2760S–2764S.
- Aubé, C., Oberti, F., Korali, N., Namour, M.-A., Loisel, D., Tanguy, J.-Y., Valsesia, E., Pilette, C., Rousselet, M.C., Bedossa, P., Rifflet, H., Maïga, M.Y., Penneau-Fontbonne, D., Caron, C. & Calès, P. 1999. Ultrasonographic diagnosis of hepatic fibrosis or cirrhosis. *J Hepatol*, 30(3): 472–478.
- Bataller, R. & Brenner, D. 2009. Hepatic fibrosis. In *Arias, I.M (ed), The liver: Biology and pathobiology*. 5 th ed. Willey Blackwell, UK: pp 433-452.
- Bataller, R., North, K.E. & Brenner, D.A. 2003. Genetic polymorphisms and the progression of liver fibrosis: A critical appraisal. *Hepatology*, 37(3): 493–503.
- Bernardi, M., Gitto, S. & Biselli, M. 2011. The MELD score in patients awaiting liver transplant: Strengths and weaknesses. *J Hepatol*, 54(6): 1297–1306.
- Bisceglie, B.K.B. and A.M. Di. 2006. Imaging of the Liver. In *Elsevier Mosby*. USA: 124–135.
- Bonacchi, A., Petrai, I., Franco, R.M.S.D.E., Lazzeri, E., Annunziato, F., Efsen, E.V.A., Cosmi, L., Romagnani, P., Milani, S., Failli, P., Batignani, G., Liotta, F., Laffi, G., Pinzani, M., Gentilini, P. & Marra, F. 2003. The Chemokine CCL21 Modulates Lymphocyte Recruitment and Fibrosis in Chronic Hepatitis C. *Gastroenterology*, 125: 1060–1076.
- Boniface, J. De, Mao, Y., Schmidt-mende, J., Kiessling, R. & Poschke, I. 2012. Expression patterns of the immunomodulatory enzyme arginase 1 in blood , lymph nodes and tumor tissue of early-stage breast cancer patients. *Oncoimmunology*, 1(8): 1305–1312.
- Borden, L.M. 2009. Understanding Correlation. In *University of Arizona Military*

*Reach*. Arizona: 1–5.

- Botta, F., Giannini, E., Romagnoli, P., Fasoli, A., Malfatti, F., Chiarbonello, B., Testa, E., Risso, D., Colla, G. & Testa, R. 2003. MELD scoring system is useful for predicting prognosis in patients with liver cirrhosis and is correlated with residual liver function: a European study. *Gut*, 52(1): 134–9.
- Boyer, T.D., Manns, M.P., Sanyal, A.J. & Zakim, D. 2012. *Zakim and Boyer's Hepatology: a textbook of liver disease*. 6th ed. Philadelphia, PA, Saunders/Elsevier.
- Brown, C.M., Becker, J.O., Wise, P.M. & Hoofnagle, A.N. 2011. Simultaneous determination of 6 L-arginine metabolites in human and mouse plasma by using hydrophilic-interaction chromatography and electrospray tandem mass spectrometry. *Clin Chem*, 57(5): 701–709.
- Buey, L.G., Mateos F, G. & Moreno-Otero, R. 2012. Cirrosis hepática. *medicine*, 11: 625–33.
- But, D.Y.K., Lai, C.L. & Yuen, M.F. 2008. Natural history of hepatitis-related hepatocellular carcinoma. *WJG*, 14(11): 1652–1656.
- Cadranel, J.F., Rufat, P. & Degos, F. 2000. Practices of liver biopsy in France: Results of a prospective nationwide survey. *Hepatology*, 32(3): 477–481.
- Caldwell, R.B., Toque, H.A., Narayanan, S.P. & Caldwell, R.W. 2015. Arginase: An old enzyme with new tricks. *Trends Pharmacol Sci*, 36(6): 395–405.
- Cao, W., Sun, B., Feitelson, M.A., Wu, T. & Tur-kaspa, R. 2009. Hepatitis C Virus Targets Over-Expression of Arginase I in Hepatocarcinogenesis. *Int J Cancer*, 124(12): 2886–2892.
- Castéra, L., Vergniol, J., Foucher, J., Le Bail, B., Chanteloup, E., Haaser, M., Darriet, M., Couzigou, P. & De Lédinghen, V. 2005. Prospective comparison of transient elastography, Fibrotest, APRI, and liver biopsy for the assessment of fibrosis in chronic hepatitis C. *Gastroenterology*, 128(2): 343–350.
- Chrzanowska, A., Gajewska, B. & Bara czyk-Ku ma, A. 2009. Arginase isoenzymes in human cirrhotic liver. *Acta Biochim Polon*, 56(3): 465–469.
- Chrzanowska, A., Grabo , W., Mielczarek-Puta, M. & Bara czyk-Ku ma, A. 2014. Significance of arginase determination in body fluids of patients with hepatocellular carcinoma and liver cirrhosis before and after surgical treatment. *Clin Chem*, 47(12): 1056–1059.
- Chrzanowska, A., Krawczyk, M. & Baran, A. 2008. Biochemical and Biophysical Research Communications Changes in arginase isoenzymes pattern in human hepatocellular carcinoma. *Elsevier*, 377: 337–340.
- Coombes, J.M. & Trotter, J.F. 2005. Development of the allocation system for deceased donor liver transplantation. *Clin Med Res*, 3(2): 87–92.
- D'Amico, G., Garcia-Tsao, G. & Pagliaro, L. 2006. Natural history and prognostic indicators of survival in cirrhosis: A systematic review of 118 studies. *J Hepatol*, 44(1): 217–231.
- Dahlan, S. 2011. *Statistika Untuk Kedokteran dan Kesehatan*. 5th ed. Jakarta: Salemba Medika.
- Dancygier, H. 2010a. *Clinical Hepatology*. Berlin, Heidelberg: Springer Berlin Heidelberg. pp 949-1015. <http://link.springer.com/10.1007/978-3-642-04519-6>.

- Dancygier, H. 2010b. *Clinical Hepatology*. Berlin, Heidelberg: Springer Berlin Heidelberg. pp15-47. <http://link.springer.com/10.1007/978-3-540-93842-2>.
- Dooley, J.S., Lok, A.S.F., Burroughs, A.K. & Heathcote, E.J. eds. 2011. *Sherlock's Diseases of the Liver and Biliary System*. 12th ed. Oxford, UK: Wiley-Blackwell. pp 546-567. <http://doi.wiley.com/10.1002/9781444341294>.
- Dowman, J.K., Tomlinson, J.W. & Newsome, P.N. 2011. Systematic review: The diagnosis and staging of non-alcoholic fatty liver disease and non-alcoholic steatohepatitis. *Aliment Pharm Ther*, 33(5): 525–540.
- Droge, W. 2002. Free Radicals in the Physiological Control of Cell Function. *Physiol Rev*, 82: 47–95.
- Dultz, G., Seelhof, M., Herrmann, E., Welker, M.W., Friedrich-Rust, M., Teuber, G., Kronenberger, B., von Wagner, M., Vermehren, J., Sarrazin, C., Zeuzem, S. & Hofmann, W.P. 2013. Baseline MELD Score Predicts Hepatic Decompensation during Antiviral Therapy in Patients with Chronic Hepatitis C and Advanced Cirrhosis. *PLoS ONE*, 8(8): 1–6.
- Durante, W., Johnson, F.K. & Johnson, R.A. 2008. Arginase: A Critical Regulator of Nitric Oxide Synthesis and Vascular Function. *Clin Exp Pharmacol Physiol*, 34(9): 906–911.
- Elwir, S. & Rahimi, R.S. 2017. Hepatic Encephalopathy: An Update on the Pathophysiology and Therapeutic Options. *JCTH*, 5: 142–151.
- Eu Chang, P., Wee Wong, G., Li, J.W., Foong Lui, H., Cheng Chow, W., Kiat Tan, C. & Chang Pik Eu, J. 2015. Epidemiology and Clinical Evolution of Liver Cirrhosis in Singapore. *Ann Acad Med Singapore*, 44(6): 218–225.
- Faried, A., Mobarak, L., El Gohary, K.K., El-deeb, H.H., El-feky, S., Ahmed, A., Zaki, N.A. & Alkhalegy, A.A. 2016. Serum levels of Arginase Isoenzyme Activity , Alpha- Fetoprotein-L3 and Endostatin as Biomarkers for Hepatocellular Carcinoma in Egyptian Patients. *Donn J Biomed Res*, 3(1): 1–5.
- Fattovich, G., Bortolotti, F. & Donato, F. 2008. Natural history of chronic hepatitis B: Special emphasis on disease progression and prognostic factors. *J Hepatol*, 48(2): 335–352.
- Flores-Rendon, A.R., Gonzalez-Gonzalez, J.A., Garcia-Compean, D., Maldonado-Garza, H.J. & Garza-Galindo, A. 2008. Model for end stage of liver disease (MELD) is better than the Child-Pugh score for predicting in-hospital mortality related to esophageal variceal bleeding. *Ann Hepatol*, 7(July): 230–234.
- Frederick, R.T. 2011. Current Concepts in the Pathophysiology and Management of Near-Drowning. *Gastroenterol Hepatol*, 7(4): 222–233.
- Friedman, S.L. 2003. Liver fibrosis – from bench to bedside. *J Hepatol*, 38(81): S38–S53.
- Friedman, S.L. 2008. Mechanisms of hepatic fibrogenesis. *Gastroenterology*, 134(6): 1655–1669.
- George, J. & G, Y. 2018. Correlation between APRI Index , MELD Score and Child Pugh Score in Cirrhosis of Liver. *JMSCR*, 06(05): 548–553.
- Ghadir, M.R., Riahin, A.A., Havaspour, A., Nooranipour, M. & Habibinejad, A.A. 2010. The relationship between lipid profile and severity of liver damage in

- cirrhotic patients. *Hepat Mon*, 10(4): 285–288.
- Ghazali, M. V & Sastromihardjo, S. 2014. Studi cross-sectional. In S. Sastroasmoro & S. Ismael, eds. *Dasar-Dasar Metodologi Penelitian Klinis*. Jakarta: Sagung Seto: p 130-144.
- Gheorghe, L., Jacob, S., Jacob, R., Gheorghe, C. & Popescu, I. 2007. Variation of the MELD score as a predictor of death on the waiting list for liver transplantation. *J Gastrointestin liver dis*, 16(3): 267–272.
- Giannini, E.G., Testa, R. & Savarino, V. 2005. Liver enzyme alteration: A guide for clinicians. *CMAJ*, 172(3): 367–379.
- González-Reimers, E., Santolaria-Fernández, F., Medina-García, J. a, González-Pérez, J.M., de la Vega-Prieto, M.J., Medina-Vega, L., Martín-González, C. & Durán-Castellón, M.C. 2012. TH-1 and TH-2 cytokines in stable chronic alcoholics. *Alcohol and alcoholism*, 47(4): 390–6.
- Gressner, O.A., Weiskirchen, R. & Gressner, A.M. 2007. Evolving concepts of liver fibrogenesis provide new diagnostic and therapeutic options. *Comp Hepatol*, 6(7): 1–13.
- Guyton, A. 2007. *Buku Ajar Fisiologi Kedokteran*. 2nd ed. EGC. Jakarta.
- Hesse, M., Modolell, M., La Flamme, A.C., Schito, M., Fuentes, J.M., Cheever, A.W., Pearce, E.J. & Wynn, T.A. 2001. Differential Regulation of Nitric Oxide Synthase-2 and Arginase-1 by Type 1/Type 2 Cytokines In Vivo: Granulomatous Pathology Is Shaped by the Pattern of L-Arginine Metabolism. *J Immunol*, 167(11): 6533–6544.
- Iredale, J.P. 2007. Models of liver fibrosis: Exploring the dynamic nature of inflammation and repair in a solid organ. : *J. Clin. Invest*, 117(3): 539–548.
- Irimia, R., Ciobica, A., Stanciu, C. & Trifan, A. 2013. The relevance of oxidative stress in cirrhotic patients with different forms of hepatic encephalopathy. *Arch Biol Sci*, 65(3): 1245–1252.
- Ishigami, M., Honda, T., Okumura, A., Ishikawa, T., Kobayashi, M., Katano, Y., Fujimoto, Y., Kiuchi, T. & Goto, H. 2008. Use of the model for end-stage liver disease (MELD) score to predict 1-year survival of Japanese patients with cirrhosis and to determine who will benefit from living donor liver transplantation. *J Gasenterol*, 43(5): 363–368.
- Iyamu, E.W., Asakura, T. & Woods, G.M. 2015. A Colorimetric Microplate Assay Method for High Throughput Analysis of Arginase Activity in Vitro. *Anal Biochem*, 382(2): 332–334.
- Jiang, M., Liu, F., Xiong, W.J., Zhong, L., Xu, W., Xu, F. & Liu, Y.B. 2010. Combined MELD and blood lipid level in evaluating the prognosis of decompensated cirrhosis. *WJG*, 16(11): 1397–1401.
- Kamath, P.S. & Kim, W.R. 2007. The model for end-stage liver disease (MELD). *Hepatology*, 45(3): 797–805.
- Karina. 2007. *Faktor risiko kematian penderita sirosis hati di RSUP dr. Kariadi Semarang tahun 2002 – 2006*. Jurnal Media Medika Muda. <http://eprints.undip.ac.id/view/divisions/sch=5Fmed/2007>.
- Kashani, A., Landaverde, C., Medici, V. & Rossaro, L. 2008. Fluid retention in cirrhosis: Pathophysiology and management. *Qjm*, 101(2): 71–85.
- Katusic, Z.S. 2007. Mechanisms of endothelial dysfunction induced by aging: Role

- of arginase I. *Circ Res*, 101(7): 640–641.
- Klavan, H.L. & Fortune, B.E. 2016. Elevated Creatinine in a Patient With Cirrhosis. *Clin Liver Dis*, 7(3): 48–52.
- Konstantinou, D. & Deutsch, M. 2015. The spectrum of HBV / HCV coinfection : epidemiology , clinical characteristics , viral interactions and management. *Ann Gastroenterol*, 28(2): 221–228.
- Kosters, A. & Karpen, S. 2010. The Role of Inflammation in Cholestasis: Clinical and Basic Aspects. *Semin Liver Dis.*, 30(02): 186–194.
- Kraja, B., Sina, M., Mone, I., Pupuleku, F., Babameto, A., Prifti, S. & Burazeri, G. 2012. Predictive Value of the Model of End-Stage Liver Disease in Cirrhotic Patients with and without Spontaneous Bacterial Peritonitis. *Hindawi*, 2012: 1–5.
- Kusumobroto, H.O. 2007. *Sirosis Hati dalam Buku Ajar Ilmu Penyakit Hati*. 1st ed. Jakarta: Jaya Abadi.
- Lee, J.W. 2009. Renal dysfunction in patients with chronic liver disease. *Electrolyte Blood Press*, 7(2): 42–50.
- Londoño, M.C., Cárdenas, A., Guevara, M., Quintó, L., De Las Heras, D., Navasa, M., Rimola, A., Garcia-Valdecasas, J.C., Arroyo, V. & Ginès, P. 2007. MELD score and serum sodium in the prediction of survival of patients with cirrhosis awaiting liver transplantation. *Gut*, 56(9): 1283–1290.
- Low, G., Alexander, G.J.M. & Lomas, D.J. 2015. Hepatorenal Syndrome : Aetiology , Diagnosis , and Treatment. *Hindawi*: 1–12.
- Luedde, T., Heinrichsdorff, J., de Lorenzi, R., De Vos, R., Roskams, T. & Pasparakis, M. 2008. IKK1 and IKK2 cooperate to maintain bile duct integrity in the liver. *PNAS*, 105(28): 9733–9738.
- MacAulay, J., Thompson, K., Kiberd, B.A., Barnes, D.C. & Peltekian, K.M. 2006. Serum creatinine in patients with advanced liver disease is of limited value for identification of moderate renal dysfunction: Are the equations for estimating renal function better? *Can J Gastroenterol*, 20(8): 521–526.
- Marra, F. 1999. Hepatic stellate cells and the regulation of liver inflammation. *J Hepatol*, 31(6): 1106–1119.
- Meurs, H., Maarsingh, H. & Zaagsma, J. 2003. Arginase and asthma: Novel insights into nitric oxide homeostasis and airway hyperresponsiveness. *Trends Pharmacol Sci*, 24(9): 450–455.
- Møller, S., Henriksen, J.H. & Bendtsen, F. 2014. Extrahepatic complications to cirrhosis and portal hypertension: Haemodynamic and homeostatic aspects. *WJG*, 20(42): 15499–15517.
- Moore, C.M., George, M., Lateef, O. & Van Thiel, D.H. 2012. The MELD score: Limitations and consequences. *WSEAS*, 9(2): 55–65.
- Morimoto, N., Okada, K. & Okita, Y. 2013. The model for end-stage liver disease (MELD) predicts early and late outcomes of cardiovascular operations in patients with liver cirrhosis. *Ann Thorac Surg*, 96(5): 1672–1678.
- Muir, A.J. 2015. Understanding the Complexities of Cirrhosis. *Clin Ther*, 37(8): 1822–1836.
- Mukherjee, P.S., Vishnubhatla, S. & Amarapurkar, D.N. 2017. Etiology and mode of presentation of chronic liver diseases in India : A multi centric study. *PLoS*

- ONE*, 12(10): 1–13.
- Muljono, D.H. 2017. Epidemiology of Hepatitis b and c in Republic of Indonesia. *J Hepato-Gastroenterol*, 7(1): 55–59.
- Munder, M. 2009. Arginase: An emerging key player in the mammalian immune system. *BPS*, 158(3): 638–651.
- Munder, M., Eichmann, K., Morán, J.M., Centeno, F., Soler, G. & Modolell, M. 1999. Th1/Th2-regulated expression of arginase isoforms in murine macrophages and dendritic cells. *J Immunol*, 163(7): 3771–3777.
- Ng, C.K., Chan, M.H., Tai, M.H. & Lam, C.W. 2007. Hepatorenal syndrome. *Clin Biochem Rev Vol*, 28(2): 11–17.
- Nissim, I., Luhovyy, B., Horyn, O., Daikhin, Y., Nissim, I. & Yudkoff, M. 2005. The role of mitochondrially bound arginase in the regulation of urea synthesis: Studies with [U-15N4]arginine, isolated mitochondria, and perfused rat liver. *JBC*, 280(18): 17715–17724.
- Nurdjanah, S. 2009. Sirosis hati. In S. A.W., Sudoyo, B., Setiyohadi, I., Alwi, M., Simadibrata, S., ed. *Buku Ajar Ilmu Penyakit Dalam*. Jakarta: Interna Publishing: 668–673.
- Nusrat, S., Khan, M.S., Fazili, J. & Madhoun, M.F. 2014. Cirrhosis and its complications: Evidence based treatment. *WJG*, 20(18): 5442–5460.
- O’sullivan, D., Brosnan, John t. & Brosnan, Margaret e. 1998. Hepatic zonation of the catabolism of arginine and ornithine in the perfused rat liver. *J Biochem*, 330: 627–632.
- Papadopoulos, V., Filippou, D., Manolis, E. & Mimidis, K. 2007. Haemostasis impairment in patients with obstructive jaundice. *J Gastrointestin liver dis*, 16(2): 177–186.
- Peng, Y., Qi, X. & Guo, X. 2016. Child-pugh versus MELD score for the assessment of prognosis in liver cirrhosis a systematic review and meta-analysis of observational studies. *Medicine*, 95(8): 1–29.
- Pesce, J.T., Ramalingam, T.R., Mentink-Kane, M.M., Wilson, M.S., Kasmi, K.C.E., Smith, A.M., Thompson, R.W., Cheever, A.W., Murray, P.J. & Wynn, T. a. 2009. Arginase-1-expressing macrophages suppress Th2 cytokine-driven inflammation and fibrosis. *PLoS Pathogens*, 5(4).
- Picon, R.V., Bertol, F.S.D., Tovo, C.V. & De Mattos, Â.Z. 2017. Chronic liver failure-consortium acute-on-chronic liver failure and acute decompensation scores preDict mortality in Brazilian cirrhotic patients. *WJG*, 23(28): 5237–5245.
- Pleli, T., Martin, D., Kronenberger, B., Brunner, F., Köberle, V., Grammatikos, G., Farnik, H., Martinez, Y., Finkelmeier, F., Labocha, S., Ferreirós, N., Zeuzem, S., Piiper, A. & Waidmann, O. 2014. Serum autotaxin is a parameter for the severity of liver cirrhosis and overall survival in patients with liver cirrhosis - A prospective cohort study. *PLoS ONE*, 9(7): 1–9.
- Poremska, Z., Skwarek, A., Mielczarek, M. & Bara czyk-Ku ma, A. 2002. Serum arginase activity in postsurgical monitoring of patients with colorectal carcinoma. *Cancer*, 94(11): 2930–2934.
- Purnamaningsih, S.M. 2017. The serum Arginase-1 correlation to child-pugh scores in predicting the severity of cirrhosis. *Bali Med J*, 6(3): 611–615.

- Ramadori, G. & Saile, B. 2004. Inflammation, damage repair, immune cells, and liver fibrosis: Specific or nonspecific, this is the question. *Gastroenterol*, 127(3): 997–1000.
- Ramón Bataller and David A. Brenner. 2008. Liver fibrosis. *Biochem J*, 411: 1–18.
- Rognant, N. & Lemoine, S. 2014. Evaluation of renal function in patients with cirrhosis: Where are we now? *WJG*, 20(10): 2533–2541.
- Ruíz-del-Árbol, L. 2015. Cirrhotic cardiomyopathy. *WJG*, 21(41): 11502–11521.
- Samonakis, D.N., Koulentaki, M., Coucoutsis, C., Augoustaki, A., Baritaki, C., Digenakis, E., Papiamoni, N., Fragaki, M., Matrella, E., Tzardi, M. & Kouroumalis, E.A. 2014. Clinical outcomes of compensated and decompensated cirrhosis: A long term study. *WJH*, 6(7): 504–512.
- Sandalova, E., Laccabue, D., Boni, C., Watanabe, T., Tan, A., Zong, H.Z., Ferrari, C. & Bertoletti, A. 2012. Increased levels of arginase in patients with acute hepatitis B suppress antiviral T cells. *Gastroenterol*, 143(1): 78–87.e3.
- Sandrin, L., Fourquet, B., Hasquenoph, J.M., Yon, S., Fournier, C., Mal, F., Christidis, C., Ziol, M., Poulet, B., Kazemi, F., Beaugrand, M. & Palau, R. 2003. Transient elastography: A new noninvasive method for assessment of hepatic fibrosis. *Ultrasound in Med and Biol*, 29(12): 1705–1713.
- Schuppan, D. & Afdhal, N.H. 2008. Liver Cirrhosis. *NIH*, 371(9615): 838–851.
- Shabir, G. 2004. A practical approach to validation of HPLC methods under current good manufacturing practices. *JVT*: 29–37.
- Shaikh, S., Ghani, H., Memon, S., Baloch, G.H., Jaffery, M. & Shaikh, K. 2010. MELD era: Is this time to replace the original child-pugh score in patients with decompensated cirrhosis of liver. *JCPSP*, 20(7): 432–435.
- Shatanawi, A. & Momani, M.S. 2017. Plasma arginase activity is elevated in type 2 diabetic patients. *Biomed Res (India)*, 28(9): 4102–4106.
- Shemyakin, A., Kövamees, O., Rafnsson, A., Böhm, F., Svenarud, P., Settergren, M., Jung, C. & Pernow, J. 2012. Arginase inhibition improves endothelial function in patients with coronary artery disease and type 2 diabetes mellitus. *Circulation*, 126(25): 2943–2950.
- Shikdar, S. & Bhattacharya, P.T. 2018. *International Normalized Ratio (INR)*. <https://www.ncbi.nlm.nih.gov/books/NBK507707/>.
- Singal, A.K. & Kamath, P.S. 2013. Model for End-stage Liver Disease. *J Clin Exp Hepatol*, 3(1): 50–60.
- Soga, K., Tomikashi, K., Miyawaki, K., Fukumoto, K., Wakabayashi, N., Konishi, H., Mitsufuji, S., Yoshida, N., Kokura, S., Naito, Y., Kataoka, K. & Yoshikawa, T. 2009. MELD score, Child Pugh score, and decreased albumin as risk factors for gastric variceal bleeding. *Hepatogastroenterol*, 56(94–95): 1552–6.
- Starr, S.P. & Raines, D. 2011. Cirrhosis: Diagnosis, management, and prevention. *Am Fam Physician*, 84(12): 1353–1359.
- Steer, G.G.F. and C.J. 2006. *Cellular Biology of the Normal Liver*. Second. Philadelphia, USA: Elsevier.
- Sugiyono. 2017. *Metode Penelitian Kuantitatif, Kualitatif R & D*. Bandung: Alfabeta. <https://massugiyantojambi.wordpress.com/2011/04/15/teori-motivasi/>.

- Šumskien , J., Kup inskas, L., Pundzius, J. & Šumskas, L. 2005. Prognostic factors for short and long-term survival in patients selected for liver transplantation. *Medicina*, 41(1): 39–46.
- Thapa, B.. & Walia, A. 2007. Liver Function Tests and their Interpretation. *Indian J Pediatr*, 74(7): 663–671.
- Tsochatzis, E. a., Bosch, J. & Burroughs, A.K. 2014. Liver cirrhosis. *The Lancet*, 383(9930): 1749–1761. [http://dx.doi.org/10.1016/S0140-6736\(14\)60121-5](http://dx.doi.org/10.1016/S0140-6736(14)60121-5).
- Tumgor, G. 2014. Cirrhosis and hepatopulmonary syndrome. *WJG*, 20(10): 2586–2594.
- United Health Care. 2017. Prothrombin Time. : 2–7.
- Wait, S., Kell, E., Hamid, S., Muljono, D.H., Sollano, J., Mohamed, R., Shah, S., Mamun-Al-Mahtab, Abbas, Z., Johnston, J., Tanwandee, T. & Wallace, J. 2016. Hepatitis B and hepatitis C in southeast and southern Asia: challenges for governments. *Lancet Gastro Hep*, 1(3): 248–255.
- Wang, X., Chowdhury, J.R. & Chowdhury, N.R. 2006. Bilirubin metabolism: Applied physiology. *Elsevier*, 16(1): 70–74.
- WHO. 2017. *Global hepatitis report, 2017*.
- Wynn, T.A. 2007. Common and unique mechanisms regulate fibrosis in various fibroproliferative diseases. *J Clin Invest*, 117(3): 524–529.
- Wynn, T.A. 2004. Fibrotic Disease And The Th 1/Th 2 Paradigm. *Nat Rev Immunol*, 4(8): 583–594.
- Yano, Y., Utsumi, T., Lusida, M.I. & Hayashi, Y. 2015. Hepatitis B virus infection in Indonesia. *WJG*, 21(38): 10714–10720.
- Ydreborg, M. 2013. On the assessment and impact of liver fibrosis in patients with chronic Hepatitis C. : 1–83.
- Yi, J.S., Cox, M.A. & Zajac, A.J. 2010. T-cell exhaustion: Characteristics, causes and conversion. *Immunol*, 129(4): 474–481.