

DAFTAR PUSTAKA

- Abeeleh, M.A., Zuhair, B.I., Alzaben K.R., Abu-Halaweh, S.A., Al-Essa, M.K., Abuabeeleh, J., Moaath, M.A., 2009, Induction of Diabetes Mellitus in Rats Using Intraperitoneal Streptozotocin: A Comparison Between 2 Strains of Rats, *European Journal of Scientific Research*, 32: 398-402.
- Akbarzadeh, A., Norouzian, D., Mehrabi, M.R., Jamshidi, S.H., Farhangi, A., Allah V.A., 2007, Induction of Diabetes by Streptozotocin in rats, *Indian Journal of Clinical Biochemistry*, 22: 60-64.
- Arslan, E.D., Solakogle, A.G., Komut, E., Kavalci, C., Yilmaz F., Karakilic E., Durdu, T., Sonmez, M., 2014, Assessment of Maxillofacial Trauma in Emergency Department, *World Journal of Emergency Surgery*, 9(13): 1-7.
- Azuma, Y., Ito, M., Harada, Y., Takagi, H., Ohta, T., Jingushi, S., 2001, Low-intensity pulsed ultrasound accelerates rat femoral fracture healing by acting on the various cellular reactions in the fracture callus, *J. Bone Miner. Res*, 16 (4): 671-680.
- Bab, I.A., and Sela, J.J., 2012, Cellular and molecular aspect of bone repair, dalam Bab, I.A., Sela, J.J., eds., *Principles of bone regeneration*, Springer Science Business Media, Jerusalem, pp. 11-13.
- Balaji, S.M., 2013, *Textbook of Oral & Maxillofacial Surgery 2nd ed.*, Elsevier, New Delhi, pp. 828-834.
- Bareil, R.P., Gauvin, R., Berthod, F., 2010, Collagen-based biomaterials for tissue engineering applications, *Materials J*, 3(3): 1863-1887.
- Budiraharja, A. S. and Rahmat, M., 2010, *Trauma Oral dan Maksilofasial*, EGC, Jakarta, p. 54.
- Burr, D.B., and Allen, M.R., 2014, *Basic and applied bone biology*, Elsevier inc; Oxford, UK, pp.3-25.
- Cameron, J.A., Milner, D.J., Lee, J.S., Cheng, J., Fay, N.X., Jasiuk, I.M., 2013, Employing the biology of successful fracture repair to heal critical size bone defects, *Current Topic in Microbiology and Immunology*, 367: 113-132.
- Chen, T., Xu E.R., Lu, H.J., Xu H., 2012, The influence of diabetes enhanced inflammation on cell apoptosis and periodontitis. *Advances in Bioscience and Biotechnology*, (October): 712-719.

Coords, M., Breitbart, E., Paglia, D., Kappy, N., Gandhi, A., Cottrell, J., Cedeno, N., Pounder, N., 2004, The Effects of Low-Intensity Pulsed Ultrasound Upon Diabetic Fracture Healing, *J of Orthopaedic research*, (2): 181-188.

Devlin, H., Garland, H. & Sloan, P., 1996, Healing of tooth extraction sockets in experimental diabetes mellitus. *J Oral Maxillofac Surg*, 54(9): 1087-1091.

Doblare, M., Garcia, J.M., Gomez, M.J., 2004, Modelling bone tissue fracture and healing: a review. *Engineering Fracture Mechanics*, 71: 1809-1840.

Dyson, 2006, The action of ultrasound on the evolution of an experimental fracture in rabbits, *Minerva Ortop.*, 55: 44-55.

Effendi and Waspadji, S., 2010, *Aspek Biomolekular Diabetes Melitus*, Badan Penerbit Fakultas Kedokteran Universitas Indonesia, Jakarta, pp.30-33.

Erol, B., Tanrikulu, R., Gorgun, B., 2004, Maxillofacial fracture: Analysis of demographic distribution and treatment in 2901 patients (25-years experience), *Journal of Cranio Maxillofacial Surgery*, 32: 308-313.

Erdogan, O., Esen, E., Ustun, Y., Kurkcu, M., Akova, T., Gonlusen, G., Uysal, H., 2006, Effect of Low-Intensity Pulsed Ultrasound on Healing of Mandibular Fractures: An Experimental Study in Rabbits, *J Oral Maxillofacial Surg*, 64: 180-188.

Fawcett, D.W., 2002, *Buku Ajar Histologi (terj.)*, 12th ed, Penerbit Buku Kedokteran EGC, Jakarta, pp.468-473.

Garrant, P.R., 2003. *Oral cells and tissues*, Quintessence publishing co., Illionis, pp. 195-227.

Giannoudis, Einhorn, T.A., Marsh, D., 2007, Fracture healing; the diamond concept injury, *Int. J. Care Injured.*, 3854: 53-56.

Gebauer, G.P., Lin, S.S., Beam, H.A., Vieira, P., Russell-Parsons, J., 2005, Low Intensity Pulsed Ultrasound Increases the Fracture Callus Strength in Diabetic Wistar Rats but Does not Affect Cellular Proliferation, *Fourrid of Ortlzopaediic Reserirch*, 20: 587-592.

Gelse, K., Po'schl, E., Aigner, T., 2003, Collagens - structure, function, and biosynthesis, *Advanced Drug Delivery Reviews*, 55(2003): 1531-1546.

Gerbino, G., and Gioanni, P.P.D., 1999, Maxillofacial trauma in the Elderly, *J Oral MaxillofacSurg*, 57: 777-792.

- Gerlach, K.L., Erle, A., Eckelt, U., Laukota, R.A., Luhr, H.G., 2007, *Surgical Management of Mandibular, Condyle Neck, and AtropicMandibula Fractures*, In Booth PW *et al*, eds. *Maxillofacial Surgery*, Churchill and Livingstone, St. Louis, p. 62.
- Graves, D.T., Alblowi, J., Paglia, D.N., O'Connor, J.P., Lin, S., 2011, Impact of Diabetes on Fracture Healing, *J Exp Clin Med*, 3(1): 3 - 8.
- Guyton, A.C., 1994, *Buku ajar fisiologi kedokteran (terj.)*, 7th ed, Bagian III, EGC, Jakarta, pp.67-70.
- Goldin, A., Joshua, A., Becham., Schmidt., 2006, Advanced glycation end products: sparking the development of diabetic vascular injury, *Circulation*, 114(6): 597-605.
- Hassan, M.A., Campbell, P., Kondo, T., 2010, The role of Ca²⁺ in ultrasound-elicited bioeffects: progress, perspectives and prospects, *Drug Discovery Today*, 15: 1-7.
- Hamada, Y., Fujii, H., Fukagawa, M., 2009, Role of oxidative stress in diabetic bone disorder, *Bone J.*, 45: 35 – 38.
- Harrison, A., Lin, S., Pounder N., Takagaki, Y.M., Hayek, S.N., 2016, Low-intensity pulsed ultrasound affects RUNX 2 immunopositive osteogenic cells in delayed clinical fracture healing, *J. Bone*, 45: 862-869.
- Hayes, B.T., Merrick, M.A., Sandrey, M.A., Cordova, M.L., 2004, Three-MHz ultrasound heats deeper into the tissues than originally theorized, *J Athl Train*, (39): 230-234.
- Herck, H.V., Baumans, V., Brandt, J.V., 2001, Blood sampling from the retro-orbital plexus, the saphenous vein and the tail vein in rats : comparative effects on selected behavioral and blood values, *J Laboratory Animals.*, 35: 131-139.
- Huda, N., 2009, *Pengaruh Ultrasound Intensitas rendah terhadap pembentukan kalus pada tulang tibia tikus putih (Rattus novergicus) yang difrakturisasi*, Tesis, Fakultas Kedokteran Universitas Gadjah Mada Bagian Ilmu Bedah Orthopedi, pp.1-68.
- Hwang, K. and You, S.H., 2010, Analysis of facial bone fractures: An 11-years study of 2094 patients, *Indian J Plast Surg.* 43(1):42-48.
- Ivaska, K., 2005, Osteocalcin Novel Insights Into The Use of Osteocalcin as A Determinant of Bone Metabolism, <http://www.doria.fi/bitstream/handle/10024/46615/diss2005ivaska.pdf> Sequence. Diakses tanggal 12/06/2018.

Kagel, E.M., and Einhorn, T., 1996, Alterations of fracture healing in the diabetic condition. *The Iowa Orthopaedic Journal*, 16: 147 - 152.

Kalfas, I.H., 2001, *Principles of bone healing- Neurosurg Focus*, article 1/April, (10), p.4.

Kayal, Y., Kitazawa, S., Kitazawa, R., Fujii, H., Kasuga, M., Fukagawa, M., 2001, Histomorphometric analysis of diabetic osteopenia in streptozotocin-induced diabetic mice: A possible role of oxidative stress, *J Bone.*, 40: 1408-1414.

Kemenkes RI, 2012, *Gambaran Penyakit Tidak Menular di Rumah Sakit di Indonesia Tahun 2009 dan 2010*, pp.1-4.

Kobayashi, T., 1990, Morphological studies on healing process Kobayashi, T, 1990, Morphological studies on healing process of fracture in rats with diabetes mellitus induced by streptozotocin, *Jpn J Oral Biol.*, 32: 600-644.

Kowalak, J.P., Welsh, W., Mayer, B., 2012, *Buku Ajar Patofisiologi (terj.)*, EGC, Jakarta, pp.397-399.

Kristiansen, T.K., Ryaby, J.P., McCabe, J., Frey, J.J., Roe, L.R., 2017, Accelerated healing of distal radial fractures with the use of specific, low-intensity ultrasound, *J Bone Joint Surg. Am.*: 961–973.

Kruger, T.E., Miller, A.H., Wang, J., 2013, Review article: Collagen scaffolds in bone sialoprotein-mediated bone regeneration, *The Scientific World Journal*, 4-12.

Lachin, T., and Reza, H., 2012, Anti Diabetic Effect of Cherries in Alloxan Induced Diabetic Rats, *Recent Patents on Endocrine, Metabolic & Immune Drug Discovery*, 6(1): 67–72.

Leeson, C.R., Leeson, T.S., Paparo, A.A., 1996, *Buku Ajar Histologi (terj.)*, cet.VI, EGC, Jakarta, pp.132-156.

Li, J and Stocum, D.L., 2014, *Fracture healing, Basic and applied bone biology*, Elsevier, pp. 205-208.

Li, L., Yang, Z., Zhang, H., Chen, W., Chen, M., Zhu, Z., 2012, Low-intensity pulsed ultrasound regulates proliferation and differentiation of osteoblasts through osteocytes, *Biochemical and Biophysical Research Communications J*, 418: 296-300.

- Li, A., Dubey, S., Varney, M.L., Dave, B.J., Singh, R.K., 2003, IL-8 directly enhanced endothelial cell survival, proliferation, and matrix metalloproteinases production and regulated angiogenesis, *J Immunol*, 170 (6): 3369-3376.
- Lin, F. and Prichard, J., 2011, *Handbook of Practical Immunohistochemistry*, Springer, p.524.
- Lotz, J., Gaetner, T., Hahn, M., Preilwitz, W., 1999, Collagen type I metabolism after bone surgery, *arch Orthop Trauma Surg*, 119: 212-216.
- Lukman, K., 1997, Penyembuhan Patah Tulang Ditinjau Dari Sudut Ilmu Biologi Molekuler, *Buletin IKABI Cabang Jawa Barat*, 4(1): 29-46.
- Marsell, R., Einhorn, T.A., 2010, Emerging Bone Healing Therapies, *J Orthop Trauma*, 24: 4-8.
- Malizos, K.N., Hantes, M.E., Protopappas, V., Papachristos, A., 2006, Low-intensity pulsed ultrasound for bone healing: An overview, *Int. J. Care Injured*, 37: 56-62.
- McCarthy, A.D., Uemura, T., Etcheverry, S.B., Cortizo, A.M., 2004. Advanced glycation endproducts interfere with integrin-mediated osteoblastic attachment to a type-I collagen matrix. *International Journal of Biochemistry and Cell Biology*, 36(5), p.840–848.
- Mescher, A.L., 2014, *Histologi Dasar Junqueira Teks & Atlas 12th ed.* H. Hartanto, ed., Jakarta: Penerbit Buku Kedokteran EGC., pp.91-105.
- Motyl, K., and McCabe, L.R., 2009, Streptozotocin Type I Diabetes Severity and Bone. *Biological Procedures Online*, 11(1): 296-315.
- Muchid, A., 2005, *Pharmaceutical care untuk penyakit diabetes mellitus*, Departemen kesehatan RI, pp.1-89.
- Nakamura, H., 2007, Morphology, function and differentiation of bone cells, *J Hard Tissue Biology*, (16)1: 15-22.
- Nakhaee, A., Bokaelan, M., Saravani, M., and Akbarzadeh, A., 2009, Attenuation of Oxydative Stress in Streptozotocin-Induced Diabetic Rats by Eucalyptus Globulus, *Indian Journal of Biochemistry*, 24(4): 419-425.
- Neve, A., Corrado, A., Cantatore, F.P., 2011. Osteoblast physiology in normal and pathological conditions, *Cell and Tissue Research*, 343(2): 289-302.

Nolte, P.A., Van der Krans, A., Patka, P., Janssen, I.M.C., Ryaby, J.P., Albers, G.H.R., 2011, Low-intensity pulsed ultrasound in the treatment of nonunions, *J. Trauma*, 51(4): 693-703.

Nugroho, 2006, Review Hewan Percobaan Diabetes Mellitus: Patologi dan Mekanisme Aksi Diabetogenik, *Biodiversitas*, 7(4): 378-382.

Oda, M., 1993, Morphological Studies on Bone Metabolism Rats in Streptozotocin induced Diabetic Mitsutaka Oda The Second Department of Oral Surgery, School of Dentistry Hokkaido University, *Jpn J. Oral Biol*, 157-185.

Ogasawara, 2008, Streptozotocin-induced type 1 diabetes in rodents as a model for studying mitochondrial mechanisms of diabetic β cell glucotoxicity, *Diabetes Metabolic Syndrome and Obesity: Targets and Therapy*, 8:181-188.

Oryan, A., and Alidadi, S., 2013, Current concerns regarding healing of bone defects. *Hard Tissue J*, 2(2):13.

Petrica, A., Brinzeu, C., Brinzeu, A., Mihai, I., 2009, Accuracy of surgical wound infection definitions - the first step towards surveillance of surgical site infections, *Timisoara Medical Journal*, 59(3-4): 362-365.

Pramojanee, S.N., 2014, Possible roles of insulin signaling in osteoblasts. *Endocrine Research*, 39(4): 144-151.

Pounder, N.M., and Harrison, A.J., 2007, Low intensity pulsed ultrasound for fracture healing: A review of the clinical evidence and the associated biological mechanism of action, *Ultrasonics J.*, 48: 330-338.

Phan, T.C.A., Xu, J., Zheng, M.H., 2004, Interaction between osteoblast and osteoclast: impact in bone disease, *Histol Histopathol.*, 19: 1325-1344.

Priyana, A., 2007, Peran pertanda tulang dalam serum pada tatalaksana osteoporosis, *Universa Medica*, 26(3): 20-24.

Pollard, T.D., and Earnshaw, W.G., Lippincott-Schwartz, W.J., 2008, *Cell biology*, 2nd ed, Saunders Elsevier, pp.583-597.

Purwanto, 2010, *Buku Panduan Laboratorium Histopatologi*, Fakultas Kedokteran Universitas Gadjah Mada, pp.2-7.

Radi, Z.A., and Khan, R.A., 2005, Effects of cyclooxygenase inhibition bone, tendon, and ligament healing, *Inflamm. Res*, 54: 358-366.

Retzepi, M., and Donos, N., 2010, The effect of diabetes mellitus on osseous healing, *Clinical Oral Implants Research.*, 21(7): 673-681.

Richardson, C., Yan, S., Vestal, C.G., 2015, Oxidative stress, bone marrow failure, and genome instability in hematopoietic stem cells. *International Journal of Molecular Sciences*, 16(2): 2366-2385.

Ridwan, E., 2013, Etika Pemanfaatan Hewan Percobaan dalam Penelitian Kesehatan, *J Indon Med Assoc*, 63: 112-126.

Rosa, N., Simoes, R., Magalhaes, F.D., Marques, A.T., 2015, From mechanical stimulus to bone formation : A review, *Medical Engineering and Physics J.*, 37: 719-728.

Rutten, S., Nolte, P.A., Korstjens, C.M., Van Duin, M.A., Nulend, J.K., 2008, Low-intensity pulsed ultrasound increases bone volume, osteoid thickness and mineral apposition rate in the area of fracture healing in patients with a delayed union of the osteotomized fibula, *Bone J.*, 43: 348-354.

Rubin, 2001, Regulation of bone formation by applied dynamic loads. *J Bone Joint Surg Am*, 66:397-402.

Sandhu, S.V., Gupta, S., Bansal, H., Singla, K., 2012, Review Article: Collagen in Health and Disease, *Journal of Orofacial Research*, 2(3): 153-159.

Shayyab, M., Alsoleihat, F., Khraisat, A., 2012, Trends in pattern of facial fractures in different country of the world, *Int J. Morphol.*, 30(2): 745-746.

Spadaro, F., 2008, Bone development and its relation to fracture repair. The role of mesenchymal osteoblasts and surface osteoblasts, *European Cells and Materials J.*, pp.53-76.

Sasano, Y, Li, H.C., Zhu, J.X., Yoshida, K.I., Mizoguchi, I., Kagayama, M., 2000, Immunohistochemical localization of type I collagen, fibronectin and tenascin C during embryonic osteogenesis in the dentary of mandibles and tibias in rats, *The Histochemical Journal*, 32: 591–598.

Schortinghuis, J., Stegenga, B., Raghoobar, G.M., de Bont, L.G., 2003, Ultrasound stimulation of maxillofacial bone healing, *J Crit Rev Oral Biol Med*, 14: 63-74.

Sood, A., Cunningham, C., Lin, S., 2013, Review Article: The BB Wistar Rat as A Diabetic Model for Fracture Healing, *Hindawi Publishing Corporation ISRN Endocrinology*, (2013): 1-6.

Szkudelski, T., 2001, The Mechanism of Alloxan and Streptozotocin Action in B Cells of the Rat Pancreas, *Physiol Res.*, 50: 536-546.

Schwanbenbauer, C., 1991, Influence of Blood Sampling Site on Some Hematological and Clinical-Chemical parameters in Sprague-Dawley Rats, *Comp. Hem. Int. J.*, 1: 112-116.

Shimoaka, T., Kamekura, S., Chikuda, H., Hoshi, K., Chung, U.I., Akune, T., 2004, Impairment of bone healing by insulin receptor substrate-1 deficiency. *J Biol Chem*, 279(153) 14-22.

Shih, A.T., and Abidin, Z., 2008, Bone healing, *American College of Foot and Ankle Surgeons Journal.*, 5-8.

Snell, R.S., 2014, *Anatomi klinis berdasarkan sistem (terj.)*, EGC, Jakarta, pp.30-38.

Soegondo, S., Soewondo, P., Subekti, I., 2015, *Penatalaksanaan Diabetes Melitus Terpadu edisi 10*, Balai Penerbit FKUI, Jakarta, pp. 80-92.

Supranto, J., 2000, *Teknik Sampling untuk Survey dan Ekspreimen ed.2*, Rineka Cipta, Jakarta, p.99.

Suryohudoyo, P., 2007. *Kapita selekta ilmu kedokteran molekular*, 2nd Ed., CV.Sagung Seto, Jakarta, pp.48-56.

Takeuchi, R., Ryo, A., Komitsu, N., Takagaki, Y.M., Fukui, A., Takagi, Y., Shiraishi, T., Morishita, S., Yamazaki, Y., Kumagai, K., Aoki, I., Saito, T., 2008, Low-intensity pulsed ultrasound activates the phosphatidylinositol 3 kinase/Akt pathway and stimulates the growth of chondrocytes in three-dimensional cultures: a basic science study, *Arthritis Research & Therapy*, 4(10): 1-11.

Thrailkill, K.M., 2005, Bone Formation Is Impaired in a Model of Type 1 Diabetes, *World Journal of Diabetes*, 54 (October): 2875-2881.

Valero, A.M., García J.C.F., Ballester A.H., Rueda C.L., 2007, Effects of diabetes on the osseointegration of dental implants, *Med Oral Patol Oral Cir Bucal*, 12: 38-43.

Viguet-Carrin, S., Garnero, P., & Delmas, P.D., 2006, The role of collagen in bone strength. *Osteoporosis International.*, 17 (3): 319-336.

Wongdee, K., and Charoenphandhu, N., 2011, Osteoporosis in diabetes mellitus: Possible cellular and molecular mechanisms, *World J Diabetes*, 2(3): 41-48.

Wyman, 2009, Low-Intensity Pulsed Ultrasound for the Treatment of Bone Delayed Union or Nonunion: A Review, *Ultrasound in Medicine and Biology*, 35(4): 529-536.

Xie, L.K., Wangrangsamakul, K., Suttapreyasri, S., Cheung, L.K., Nuntanaranont, T., 2011, A preliminary study of the effect of low intensity pulsed ultrasound on new bone formation during mandibular distraction osteogenesis in rabbits. *Int. J. Oral Maxillofac. Surg*, 40: 730-736.

Yamashita, T., Takahashi, N., Udagawa, N., 2012, New roles of osteoblasts involved in osteoclast differentiation, *World J Orthop.*, 18;3(11): 175-181.

Zhao, X., and Yan, S-G., 2011, Low-intensity pulsed ultrasound (LIPUS) therapy may enhance the negative effects of oxygen radicals in the acute phase of fracture, *Medical Hypotheses*, 76: 283-285.