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Efek Terapi Electro-Capacitive Cancer Therapy (ECCT) terhadap Profil Leukosit dan Rasio CD4+/CD8+

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DAFTAR PUSTAKA

- Akinbami, A., Popoola, A., Dosunmu, A., Oshinaike, O., Adebola, P., and Ajibola, S. 2013. Full blood count pattern of pre-chemotherapy breast cancer patients in Lagos, Nigeria. *Caspian J Intern Med.* 4(1): 574.
- Alamsyah, F., Ajrina, I.N., Dewi, F.N.A., Iskandriati, D., Prabandari, S.A., and Taruna, W.P. 2015. Anti-proliferative effect of electric fields on breast tumor cells in vitro and in vivo. *Indonesian J Cancer Chemoprevention.* 6(3): 71-77.
- Aliustaoglu, M., Bilici, A., and Ustaalioglu, B.B.O. 2010. The effect of peripheral blood values on prognosis of patients with locally advanced gastric cancer before treatment. *Medical Oncology.* 27(4): 1060-1065
- Anonim. 2018. World Health Organization (WHO). Cancer. Accessed from: <http://who.int/news-room/fact-sheets/detail/cancer> on 3rd January 2020.
- Azab, B., Shah ,N., Radbel ,J., Tan, P., Bhatt, V., and Vonfrolio, D. 2013. Pretreatment neutrophil/lymphocyte ratio is superior to platelet/lymphocyte ratio as a predictor of long term mortality in breast cancer patients. *Med Oncol.* 30(1):432.
- Baskar, R., Lee1, K.A., Yeo, R., and Yeoh, K.W. 2012. Review cancer and radiation therapy: current advances and future directions. *International Journal of Medical Sciences,* 9(3):193-199.
- Bassett, C.A. 1985. The development and application of pulsed electromagnetic fields (PEMFs) for ununited fractures and arthrodes. *Clin Plast Surg.* 2(12): 259-277.
- Basso, S., Zecca, M., Merli, P., Gurrado, A., Secondino, S., Quartuccio, G., Guido, I., Ottonello, G., Zavras, N., Maccario, R., Pedrazzoli, P., and Comoli, P. 2011, T cell therapy for nasopharyngeal carcinoma. *Journal of Cancer.* 2 (1): 341–346.
- Binggeli, R., and Weinstein, R. C. 1986. Membrane potentials and sodium channels: Hypotheses for growth regulation and cancer formation based on changes in sodium channels and gap junctions. *Journal of Theoretical Biology.* 123, 377–401.
- Cakir, D. U., Yukos, B., Akdag, M. Z., Sert, C., and Mete, N.. 2009. Alteration of hematological variation in rats exposed to extreamly low frequency magnetic field (50Hz). *Archives of Medical Research.* 40: 352 – 356.
- Chen, J., Q. Deng, Y. Pan, B. He, H. Ying, H. Sun. Liu, and S. Wang. 2015. Prognostic value of neutrophil-to-lymphocyte ratio in breast cancer. *FEBS Open Bio,* 5: 502-507.



Chen, S.C., Sinali, N., Bedarida, G., Gregorio, M.A., Emanuel, E., and Grady, C. 2017. Phase 1 healthy volunteer willingness to participate and enrollment preferences. *Clinical Trials.* 4(5): 537.

Cone, C. D., Jr. 1971. Unified theory on the basic mechanism of normal mitotic control and oncogenesis. *Journal of Theoretical Biology.* 30, 151–181.

Dalton, C., Goater, A.D., Burt, J.P.H., and Smith, H.V. 2004. Analysis of parasites by electrorotation. *Journal Appl Microbiol.* 96: 24-32.

Dasdag, S., Sert, C., Akdag, Z., and Batun, S. 2002. Effect of extremely low electromagnetic fields on hematologic and immunologic parameter in welders. *Archives of Medical Research.* 33: 29-32.

Dawson, T. W., Stuchly, M.A., and Kavet, R. 2004. Electric fields in the human body due to electrostatic discharges. *IEEE transactions on biomedical engineering.* 51(8): 1460-1468.

De Larco, J.E., Wuertz, B.R.K., and Furcht L.T. 2004. The potential role of neutrophils in promoting the metastatic phenotype of tumors releasing interleukin-8. *Clinical Cancer Research.* 10: 4895–900.

Deangelis, C.D. 2017. Volunteering for clinical research studies and public health. *The Milbank Quarterl.* 95(1): 40-42.

Dewi, M. 2017. Sebaran kanker di Indonesia, Riset Kesehatan Dasar 2007. *Indonesian Journal of Cancer.* 11(1): 1-8.

Di, G., Gu, X., Lin, Q., Wu, S., and Kim, H.B. 2018. A comparative on effect of static electric field and power frequency electric field on hematology in mice. *Ecotoxicology and Environmental Safety.* 166: 109-115.

Dumas, E., Martel, C., Neagoe,P.E., Bonnefoy, A., and Sirois, M.G. 2012, Angiopoietin-1 but not angiopoietin-2 promotes neutrophil viability: role of interleukin-8 and platelet-activating factor. *Elsevier B.V.* 1823(2): 358–367.

Elijah, J., Mun, M.D., Hani, M.B., et al. 2017. Tumor treating fields: a fourth modality in cancer treatment. *TTFs.* Pp 1-23.

Esa, T., Aprianti, S., Arif, M., dan Hardjoeno. 2006. Nilai rujukan hematologi pada orang dewasa sehat berdasarkan sistem XT-1800i. *Indonesian Journal of Clinical Pathology.* 12: 1-3.

Fathima, S.Y., and Khanum, F. 2017. Blood cells and leukocyte culture. *Blood res Transfus J.* 1(2): 001-002.



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Firdausi, N. 2019. Pengaruh medan listrik statis terhadap distribusi limfosit CD4⁺ dan CD8⁺ pada jaringan tumor payudara tikus (*Rattus Norvegicus Berkenhout*, 1769) terinduksi 7,12-Dimethylbenz[A]Anthracene. Laporan Skripsi. Fakultas Biologi, Universitas Gadjah Mada.

Fitriatuzzakiyyah,N., Sinuraya, R.K., and Puspitasari, I.M. 2017. Terapi kanker dengan radiasi: konsep dasar radioterapi dan perkembangannya di Indonesia. *Jurnal Farmasi Klinik Indonesia*. 6 (4): 311-320.

Forget, P., Khalifa, C., Defour, J.P., Latinne, D., Pel, M.C.V., and Kock, M.D. 2017. What is the normal value of the neutrophil-to-lymphocyte ratio?. *BMC Research Note*. 10: 1-15.

Fox, J.G., S.W. Barthold, M.T. Davisson, C.E. Necomer, F.W. Quimby, and A.L. Smith. 2007. The mouse in biomedical research, 2nd ed. vol. III Normative Biology, Husbandry, and Models. *Academic Press, Elsevier.Inc. USA*, p. 148-151, 156.

Gandolfo, M., Michaelson. S.M., and R. Alessandro. 2013. Biological effects and dosimetry of static and ELF electromagnetic fields. *Springer Science & Business Media*. New York and London pp. 525-535.

Gera, N., and Swanson, K. D. 2016. Cell biological effects of tumor treating fields. In *Alternating Electric Fields Therapy in Oncology* Springer, Cham. pp. 1-14.

Ghalib, N.N., Nasrullayeva, G.M., Qaziyev, A.Y., Jawad, and KH. Al-Ali. 2016. T-lymphocyte subset (CD4 /CD8) ratios of breast cancer patients in Basra-Iraq and Baku-Azerbaijan. *Asian Pacific Journal of Cancer Prevention*. 17 : 175-177.

Ghoncheh, M., Pournamdar, Z., and Salehiniya, H. 2016. Incidence and mortality and epidemiology of breast cancer in the world. *Asian Pacific Journal of Cancer Prevention*. 17. 43.

Gize, A., Mathewos, B., Moges, B., Worldnes, M., and Gedefaw, L. 2014. Establishment of normal reference intervals for CD3+, CD4+, CD8+, and CD4+ to CD8+ ratio of t lymphocytes in HIV negative adults from University of Gondar Hospital, North West Ethiopia. *AIDS Research and Treatment*. 1-7.

Green, J., FABDNO, NO. 2014. Prognostic role of neutropil-to-lymphocyte ratio in cancer. *Natural Medicine Journal*. 6: 12.

Guthrie, G, Charles, K, and Roxburgh, C. 2013. The systemic inflammation-based neutrophil-lymphocyte ratio: experience in patients with cancer. *Critical Reviews*. 6:78-82.



Hanahan, D., and Folkman, J. (1996). Patterns and emerging mechanisms of the angiogenic switch during tumorigenesis. *Cell* 86, 353–364.

Harris, N., Kunicka, J., and Kratz, A. 2005. The ADVIA 2120 hematology system: flow cytometry-based analysis of blood and body fluids in the routine hematology laboratory. *Laboratory Hematology*. 11:47-61.

Harutyunyan, H. Vahe Mkrtchyan, K. Sukiasyan, G. Sahakyan, G. Poghosyan, A. Soghomonyan, E. Cherniavsky, E. Bondarenko, and V. Shkumatov. 2016 Effect of in vivo and in vitro exposure to electrostatic field on some hematological parameters in rats. *Bioelectromagnetics*, pp. 1-14.

Hedge, R.B., Prasad, K., Hebbar, H., and Sandhya, I. 2018. Peripheral blood smear analysis using image processing approach for diagnostic purpose. *Elsevier*. 257 : 1-14.

Hottinger, A. F., Pacheco, P., and Stupp, R. 2016. Tumor treating fields: a novel treatment modality and its use in brain tumors. *Neuro-Oncology* 18(10): 1338–1349.

Huang, Y., Ma, C., Zhang, Q., Ye, J., Wang, F., Zhang, Y., Hunborg, P., Varvares, M.A., Hoft, D.F., Hsueh, E.C., and Peng, G. CD4+ and CD8+ T cells have opposing roles in breast cancer progression and outcome. *Oncotarget*. 6 (19).

Husain, M., and S.N.N. Makiyah. 2016. pengaruh pajanan gelombang telepon seluler terhadap struktur histologi limpa pada mencit (*Mus musculus*). *YARSI Medical Journal*, 20(3): 167-173.

Ivashkiv, L.B. 2011. Inflammatory signaling in macrophages: transitions from acute to tolerants and alternative activation states. *European Journal of Immunology*, 41: 2477–2481.

Kemkes, RI. 2011. Pedoman interpretasi data klinik. Kementerian Kesehatan Republik Indonesia : Jakarta.

Kirsch, D. L., and Marksberry, J. A. 2015. Bioelectromagnetic and subtle energy machine 2nd ed. “the evolution of cranial electrotherapy stimulation for anxiety, insomnia, depression, and pain and its potential for other indications”. CRC Press. Boca Raton. p. 206.

Kirson, E.D., Dbaly, V., Tovarys, F., Vymazal, J., Soustiel, J.F., Itzhaki, A., Mordechovich, D., Shapira, S.S., Gurvich, Z., Schneiderman, R., Wasserman, Y., Salzberg, M., Ryffel, B., Goldsher, D., Dekel, E., and Palti, Y. 2007. alternating electric fields arrest cell proliferation in animal tumor models and human brain tumors. *PNAS*. 104(24): 10152-10157.



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Kirson, E.D., Gurvich, Z., Schneiderman, R., Dekel, E., Itzhaki, A., Wasserman, Y.,

Schatzberger, R., and Palti, Y. 2004. Disruption of cancer cell replication by alternating electric fields. *Cancer Research*. 64: 3288-3295.

Lalongo, C., and Bernardini, S. 2015. Phlebotomy, a bridge between laboratory and patient. *Biochimia Medica*.26(1): 17-33.

Lee, H.B., and Han, W. 2014. Unique features of young age breast cancer and its management. *Journal of Breast Cancer*. 17 (4): 301.

Liao, Q., Guo, X., Li, X., Chen, P., Linag, F., Tang, H., Deng, M., Wu, M., Ma, J., Xiong, W., and Li, G. 2012. Analysis of the contribution of nasopharyngeal epithelial cancer cells to the induction of a local inflammatory response. *Journal of Cancer Research and Clinical Oncology*. 138 (1) : 57–64.

Liu, Y., Yin, T., Feng, Y., Cona, M.M., Huang, G., Liu, J., Song, S., Jiang, Y., Xia, Q., Swinnwn, J.V., Bornans, G., Himmelreich, U., Oyen, R., and Ni, Y. 2015. Mammalian models of chemically induced primary malignancies exploitable for imaging-based preclinical theragnostic research. *Quantitative Imaging in Medicine and Surgery*. 5(5):708-729.

Long, H., Zhang, G., Wang, L., and Lu, Q. 2015. Eosinophilic skin diseases: a comprehensive review. *Clinic Rev Allerg Immunol*. 1-25.

Lu, A., Li, H., Zheng, Y., Tang, M., Li, J., Wu, H., Zhong, W., Gao, J., Ou, N., and Cai, Y. 2017. Prognostic significance of neutrophil to lymphocyte ratio, lymphocyte to monocyte ratio, and platelet to lymphocyte ratio in patients with nasopharyngeal carcinoma. *BioMed Research International*. 2017.

Ma, W., Shi, T., Tang, Z., Liu, S., Malik, R., and Zhang, L. 2011. High-throughput dielectrophoretic manipulation of bioparticles within fluids through biocompatible three-dimensional microelectrode array. *Electrophoresis*. 32: 494-505.

MacFarlane, S. N., and Sontheimer, H. 2000. Changes in ion channel expression accompany cell cycle progression of spinal cord astrocytes. *GLIA*. 30, 39 –48.

Mahaworasilpa, T.L., Coster, H.G.L., and George, E.P. 1996. Forces on biological cells due to applied alternating (ac) electric fields. *Biophys Acta*. 1281: 5-14.

Maltser, S., Cristian, A., Silver, J.K., Morris, S., and Stout, N.L. 2018. A Focused Review of Safety Considerations in Cancer Rehabilitation. *PubMed Central Journal*. 4-6.

Marieb, E.R.N. and K. Hoehn. 2017. Human anatomy and physiology 9th ed. pearson education, inc. USA, pp. 635-649.



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Marino, E. J., and Mariah, H. 2016. Membrane potential controls macrophage activation. *Front Bioeng Biotechnol.* 4: 360.

McBride, J.A., and Striker, R. 2017. Imbalance in the game of T cells: what can the cd4/cd8 t-cell ratio tell us about hiv and health. *PLOS PATHOGENS.* 1-2.

McDonald, E.S., Clark, A.S., Tchou, J., Zhang, P., and Freedman, G.M. 2016. Clinical diagnosis and management of breast cancer. *J of Nuclear Medicine.* 57:11S–16S.

Moolten, F.L. 1997. suicide genes for cancer therapy. *Sci. Med.* 4: 16-25.

Mun, E.J., Babiker, H.M., Weinberg, U., M.D., Kirson, E.D., and Hoff, D.D.V. 2018. Tumor Treating Fields: A Fourth Modality in Cancer Treatment. *Clin Cancer Res.* 24(2); 266-70.

Mursilatun. 2010. Pengaruh medan listrik terhadap pertumbuhan sel kanker. Skripsi. Prodi Fisika, FMIPA, Universitas Indonesia.

Nair, I. 1989. Biological effects of power frequency electric and magnetic fields. background paper, assesment of electric power wheeling and dealing: technological consideration for increasing competition,. u. s. goverment printing office. Washington DC.

Nikolic, I., Kukulj, S., Samaržija, M., Jeleč, V., Žarak, M., Orehovec, Taradi, I., Romić, D., Kolak, T., and Patrlj, L.. 2016. Neutrophil-to-lymphocyte and platelet-to-lymphocyte ratio help identify patients with lung cancer, but do not differentiate between lung cancer subtypes. *Croat Med J*, 57: 287-292.

Nounou, M.I., ElAmrawy, F., Ahmed, N., Abdelraouf, K., Goda, S., and Syed-Sha-Qhattal, H. 2015. Breast cancer: conventional diagnosis and treatment modalities and recent patents and technologies. *Breast Cancer: Basic and Clinical Research.* 9: 17-34.

Nuraini, P. 2019. Profil leukosit dan trombosit tikus dengan induksi 7,12-Dimethylbenz[a]Anthracene dan paparan medan listrik statis. Skripsi. Fakultas Biologi Universitas Gadjah Mada, Yogyakarta.

O'connell, K.E., A.M. Mikkola, A.M. Stepanek, A. Vernet, C.D. Hall, C.C. Sun., E. Yildirim, J.F. Staropoli, J.T. Lee, and D.E. Brown. 2015. Overview practical murine hematopathology: a comparative review and implications for research. *Comparative Medicine*, 65(2): 96–113.

Okuturlar, Y., M. Gunaldi., E.E. Tiken., B. Oztosun., Y.O. Inan., T. Ercan., S. Tuna., A. O Kaya., O. Harmankaya., and A. Kumbasar. 2015. Utility of peripheral blood parameters in predicting breast cancer risk. *Asian Pac J Cancer Prev.* 16(6): 2409-2412.

Park, J.Y., Jang, M.J., Chung, Y.H., Kim, K.Y., Kim, S.S., Lee, W.B., You, S., Choi, Y.S., Hur, D.R., and Kim, D. 2009. Doxorubicin enhances CD4+ Tcell immune responses



Partridge, A.H., Burstein, H.J., and Winer, E.P.. 2001. Side effects of chemotherapy and combined chemohormonal therapy in women with breast cancer. *Journal of the National Cancer Institute Monographs*. 30:135-42.

Patton, K. T. and Thibodeau, G. A.. 2016. PART- Anatomy and physiology. elsevier. New York. p.622.

Petri, A. K., Schmiedchen, K., Stunder, D., Dechent, D., Kraus, T., Bailey, W.H., and Driessen, S.. 2017. Biological effects of exposure to static electric fields in humans and vertebrates: a systematic review. *Environmental Health*. 16(1): 41.

Prasetyo, Y.E., Bahrun, U.R.D.N., and Pakasi. 2015. Angka banding neutrofil/limfosit karsinoma payudara (neutrophil/lymphocyte ratio in carcinoma mammae). *Indonesian Journal of Clinical Pathology and Medical Laboratory*, 21(2): 1-8.

Sari, S.R. 2019. Profil hematologis mencit galur Swiss dengan induksi 7,12-Dimethylbenz[a]Anthracene dan paparan medan listrik statis. Skripsi. Fakultas Biologi Universitas Gadjah Mada, Yogyakarta.

Schmidt, H., Bastholt, L., Geertsen, P., Christensen, I.J., Larsen, S., Gehl, J., and von der Maase, H. 2005, Elevated neutrophil and monocyte counts in peripheral blood are associated with poor survival in patients with metastatic melanoma: a prognostic model. *British Journal of Cancer*. 93 (3): 273–278.

Selmaoui, B., Lambrozo, and J., Touitou, Y. 1997. Endocrine functions in young men exposed for one night to a 50-Hz magnetic field, a circadian study of pituitary, thyroid and adrenocortical hormones. *PII*. 29-35

Septianti, C.D. 2018. Pengaruh medan listrik statis terhadap profil hematologis tikus (*Rattus norvegicus Berkenhhout*, 1769) galur *Sprague Dawley* dengan induksi DMBA. Laporan Skripsi. Fakultas Biologi, Universitas Gadjah Mada.

Seto, Y.J., Majeu-Chargois, D., Lymangover, Dunlap, J. R., W.P., Fox, F. T., and Hsieh, S. T.. 1986. Chronic 60 Hz electric field exposure-induced subtle bioeffects on hematology. *Environmental Research*. 39: 143-152.

Shah, R., Rosso K., and Nathanson, S. D. 2014. Pathogenesis, prevention, diagnosis and treatment of breast cancer. *World Journal of Clinical Oncology*.5 (3): 283.

Shamri, R., Xenakis, J.J., and Spencer, L.A. 2011. Eosinophils in innate immunity: an evolving story. *Cell Tissue Res.* 343(1): 57–83.



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Sharp, P., and Villano, J.S. 2012. The laboratory rat 2nd ed. CRC Press: New York.

Shimada, H., Takiguchi, N., Kainuma, O., Soda, H., Ikeda, A., Cho, A., Miyazaki, A., Gunji, H., Yamamoto, H., and Nagata, M. 2010. High preoperative neutrophil-lymphocyte ratio predicts poor survival in patients with gastric cancer. *Gastric Cancer*, 13: 170-176.

Sullivan, Y.B., Landay, A.L., Zack, J.A., Kitchen, S.G., and Al-Harthi, L. 2001. Upregulation of CD4 on CD8⁺ T cells: CD4^{dim}CD8^{dim} T cells constitute an activated phenotype of CD8⁺ T cells. *Immunology*. 103: 270-280.

Sundelacruz, S., Levin, N., and Kaplan, D. L. 2009. Role of membrane potential in the regulation of cell proliferation and differentiation. *Stem Cell Rev.* 5(2): 231-246.

Suryaatmadja M. 2004. Tabel konversi sistem satuan SI - konvensional dan nilai rujukan dewasa - anak parameter laboratorium klinik. *Perhimpunan Dokter Spesialis Patologi Klinik Indonesia Cabang Jakarta*. 1-5.

Swanson, K.D., Lok, E., and Wong, E.T. 2016. An overview of alternating electric fields therapy (NovoTTF Therapy) for the treatment of malignant glioma. *Curr Neurol Neurosci Rep.* 16(8).

Takashima, S., and Schwan, H.P. 1985. Alignment of microscopic particles in electric fields and its biological implications. *Biophys Journal*. 47: 513-521.

Tang, J., Li, X., Price, M.A., Sanders, E.J., Anzala, O., Karita, E., Kamali, A., Lakhi, S., Allen, S., Hunter, E., Kaslow, R.A., and Gilmour, J. 2015. CD4:CD8 lymphocyte ratio as a quantitative measure of immunologic health in HIV-1 infection : Findings from an African cohort with prospective data. *Frontiers in Microbiology*. 6: 1-9.

Tsutsui, H., and Ho, C.M. 2009. Cell separation by non-inertial force fields in microfluidic systems. *Mech. Res. Commun.* 36(1): 92-103.

Umscheid, C.A., Margolis, D.J., and Grossman, C.E. 2011. Key concepts of clinical trials: a narrative review. *Postgrad Med.* 123 (5): 194-204.

Wang, Z. 2004. Roles of K⁺ channels in regulating tumour cell proliferation and apoptosis. *Eur J Physiol.* 448: 274–286.

Wong, E. T. 2016. Alternating electric fields therapy in oncology : a practical guide to clinical applications of tumor treating fields. *Springer International Publishing*. Switzerland.

Yang, M., and Brackenbury, W.J. 2013. Membrane potential and cancer progression. *Front Physiol.* 4 : 185.



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Yang, X., Ren, H., Sun, Y., Shao, Y., Zhang, L., Li, H., Zhang, X., Yang, X., Yu, W., and Fu,

J. 2017. Prognostic significance of CD4/CD8 ratio in patients with breast cancer. *Int J Clin Exp Pathol.* 10(4):4787-4793.

Youlden, D.R., Cramb, S.M., Yip, C.H., and Baade, P.D. 2014. Incidence and mortality of female breast cancer in the AsiaPacific region. *Cancer Biology & Medicine.* 11 (2) : 101-103.

Zhang, H., Liu, K., Xue, Z., Yin, H., Dong, H., Jin, W., Shi, X., Wang, H., and Wang, H. 2018. High-voltage pulsed electric field plus photodynamic therapy kills breast cancer cells by triggering apoptosis. *Am J Transl Res.* 10(2):334.

Zhao, J.A., Chen, JJ., Ju, Y.C., Wu, JH., Geng, C.Z., and Yang, H.C.. 2011. The effect of childbirth on carcinogenesis of DMBA-induced breast cancer in female SD rats. *Chinese Journal of Cancer.* Vol 30. 779-785.

Zimmermann, U., Vienken, J., and Pilwat, G. 1981. Rotation of cells in alternating electric field: The occurrence of a resonance frequency. *Z Naturforsch.* 36: 173-180.