

## **BAB 5**

### **KESIMPULAN DAN SARAN**

#### **5.1 Kesimpulan**

Berdasarkan hasil penelitian yang berjudul Studi penggunaan paclitaxel untuk penderita *breast cancer* di RUMKITAL Dr. Ramelan Surabaya pada periode 1 Januari 2017 – 31 Desember 2017 telah dilakukan maka dapat diambil kesimpulan sebagai berikut :

1. Paclitaxel digunakan pada pasien operasi sebanyak 10 pasien (33%), non operasi sebanyak 20 pasien (67%), dan tidak ditemukan pemakaian tunggal.
2. Pengobatan paclitaxel kombinasi diberikan kepada 30 pasien dengan dosis  $130 \text{ mg/m}^2$  sebanyak 27 pasien (90%), dengan dosis  $120 \text{ mg/m}^2$  sebanyak 1 pasien (3,3%) dan dosis  $100 \text{ mg/m}^2$  sebanyak 2 pasien (6,7%).
3. Pasien kanker payudara yang mendapatkan terapi kemoterapi paclitaxel kombinasi dikatakan mengalami perbaikan sebanyak 29 pasien (97%) dan meninggal dunia sebanyak 1 pasien (3%) dengan toksisitas berupa mual dan muntah di alami oleh 30 pasien (40%) dan toksisitas berupa leukopenia dialami oleh 16 pasien (20%).
4. Protokol penggunaan kemoterapi paclitaxel yang diberikan belum sesuai dengan *guidelines National Comprehensive Cancer Network* dengan ketentuan dosis anjuran paclitaxel  $135 - 175 \text{ mg/m}^2$ .

## **5.2 Saran**

1. Dilakukan penelitian lanjutan tentang penggunaan kemoterapi paclitaxel terkait dengan efektivitas obat dengan sampel jumlah yang lebih banyak dan data rekam medis yang lebih lengkap serta pembahasan yang berkaitan dengan tenaga kesehatan yang terlibat dalam proses kemoterapi pasien.
2. Perlu dilakukan pemeriksaan yang lebih spesifik seperti pemerikasaan mamografi, subtipe molekular atau data penunjang lain pada setiap siklus pasien agar pemilihan obat dan dosis lebih spesifik sehingga dapat meningkatkan keberhasilan dari kemoterapi.
3. Diharapkan adanya peran dari farmasis secara maksimal dalam memberikan edukasi dan informasi berkaitan dengan pemberian kemoterapi yang diberikan dari segi efektivitas, interaksi, dan efek samping yang mungkin terjadi agar pengobatan kemoterapi bisa mencapai hasil yang maksimal dan pasien menjalani pengobatan dengan nyaman.
4. Diharapkan seluruh tenaga kesehatan yang terlibat dalam penanganan pasien kanker dapat bekerja sama dengan baik dan menuliskan data penting terkait kondisi pasien karena berhubungan langsung dengan pemilihan kemoterapi yang akan diberikan, sebab pemilihan obat dan dosis kemoterapi yang tepat akan meningkatkan kemungkinan sembuh dari pasien.

## DAFTAR PUSTAKA

- Amandito, R. dan Viryawan C. 2013, The Characteristics of Breast Cancer Patients in Dharmais Hospital National Cancer Center Jakarta Based on Occupational and Environmental Status, *Indonesian Journal of Cancer*, **7(2)** : 47 – 52.
- American Cancer Society, 2017, *Types of Breast Cancer*, Diakses pada 20 Maret 2018, <http://www.cancer.org/cancer/breast-cancer/understanding-a-breast-cancer-diagnosis/types-of-breast-cancer.html>.
- Andrepoulou, E. dan Sparano J.A. 2014, Chemotherapy in Patients with Anthracycline- and Taxane-Pretreated Metastatic Breast Cancer: An Overview, *Current Breast Cancer Report*, **5(1)** : 42 – 50.
- Angahar, L.T. 2017, An Overview of Breast Cancer Epidemiology, Risk Factors, Pathophysiology, and Cancer Risks Reduction, *MedCrave Online Journal of Biology and Medicine*, **1(4)** : 92 – 96.
- BC Cancer Agency, 2018, Cancer Drug Manual : *Paclitaxel*, Canada.
- Chabner, B.A., Bertino, J., Cleary, J., Ortiz, T., Lane, Andrew., Supko, J.G., Ryan, D., 2012, 'Cytotoxic Agent', in Brunton, L.L., Chabner, B.A., Knollmann, B.C., *Goodman and Gilman's The Pharmacological Basis of Therapeutics*, 12<sup>th</sup> ed., The McGraw-Hill, San Fransisco, pp 1707-1709.
- Chu, E. dan Sartorelli, A.C. 2014, 'Kemoterapi Kanker' in Katzung, B.G., *Basic & Clinical Pharmacology*, 12<sup>th</sup> ed., The McGraw-Hill Companies Inc, San Fransisco, pp 949-950.
- Codi III, H.S. dan Plitas, G. 2014 , 'Chapter 38: Axillary Dissection'. in Harris, J.R., Lippman, M.E., Morrow, M., Osborne C.K., *Diseases of the Breast*, 5th ed, Wolters Kluwer Health, Philadelphia.
- Colditz, G.A. dan Bohlke, K. 2015, Preventing breast cancer now by acting on what we already know, *Nature Partner Journal*, **1** : 1 – 4.
- Collins, L.C. dan Schnitt, S.J. 2014, 'Chapter 9: Pathology of Benign Breast Disorders', in Harris, J.R., Lippman, M.E., Morrow, M., Osborne C.K., *Diseases of the Breast*, 5th ed, Wolters Kluwer Health, Philadelphia.

- Crawford, J., Dale, D.C., dan Lyman, G.H. 2004, Chemotherapy-Induced Neutropenia Risks, Consequences, and New Directions for Its Management, *Journal of the American Cancer Society*, **100**(9) : 228 – 236.
- Crown, J., O’Leary, M., dan Ooi W. 2004, Docetaxel and Paclitaxel in the Treatment of Breast Cancer, *The Oncologist*, **9**(2) : 24 – 32.
- Dang, C. dan Hudis, C.A. 2014, ‘Chapter 44: Adjuvant Systemic Chemotherapy in Early Breast Cancer’ in Harris, J.R., Lippman, M.E., Morrow, M., Osborne C.K., *Diseases of the Breast*, 5th ed, Wolters Kluwer Health, Philadelphia.
- Dicato, M., Plawny, L., dan Diederich, M. 2010, Anemia in cancer, *Annals of Oncology*, **21**(7) : 167 – 172.
- Dillon, D., Guidi, A.J., dan Schnitt, S.J. 2014, ‘Chapter 25: Pathology of Invasive Breast Cancer’ in Harris, J.R., Lippman, M.E., Morrow, M., Osborne C.K., *Diseases of the Breast*, 5th ed, Wolters Kluwer Health, Philadelphia.
- Domen R.E. 2007, ‘Blood Product Transfusions in the Hematologic Malignancies’, In Sekeres M.A., Kalaycio M.E., Bolwell B.J., *Clinical Malignant Hematology*, McGraw-Hill, New York, pp 1127-1138.
- Dongola, N., Eby, P., Lewin, J.M. 2016, *Mammography in Breast Cancer*, Department of Radiology, Soba University Hospital, North America.
- Fitzmaurice, C., Dicker, D., Pain, A., Hamavid, H., Moradi-Lakeh, M., dan MacIntyre, M.F. 2015, The Global Burden of Cancer 2013. *JAMA Oncol*, **1** : 505 – 27.
- Friedman, P.A. 2012, ‘Hormones and Hormone Antagonist: Agents Affecting Mineral Ion Homeostasis and Bone Turnover’, in Brunton, L.L., Chabner, B.A., Knollmann, B.C., *Goodman and Gilman’s The Pharmacological Basis of Therapeutics*, 12<sup>th</sup> ed., The McGraw-Hill, San Fransisco, pp 1295.
- Gilreath, J.A., Stenehjem, D.D., dan Rodgers, G.M. 2014, Diagnosis and Treatment of Cancer Related Anemia, *American Jurnal of Hematology*, **89**(2) : 203 – 212.

- Goodman, L. S., Gilman, A., Hardman, J. G., Gilman, A. G., & Limbird, L. E. 2012, *Goodman & Gilman's the pharmacological basis of therapeutics*, McGraw-Hill, New York.
- Groopman, J.E. dan Itri, L.M. 1999, Chemotherapy-Induced Anemia in Adults: Incidence and Treatment, *J Natl Cancer Inst* , **92(6)** : 497.
- Grosser, T., Smyth, E. dan FitzGerald, G.A. 2012, 'Anti-Inflammatory, Antipyretic, and Analgesic Agents; Pharmacotherapy of Gout', in Brunton, L.L., Chabner, B.A., Knollmann, B.C., *Goodman and Gilman's The Pharmacological Basis of Therapeutics*, 12<sup>th</sup> ed., The McGraw-Hill, San Fransisco, pp 963.
- Harris, J.R. dan Morrow, M. 2014, 'Chapter 35: Breast-Conserving Therapy'. in Harris, J.R., Lippman, M.E., Morrow, M., Osborne C.K., *Diseases of the Breast*, 5th ed., Wolters Kluwer Health, Philadelphia.
- Hortobagyi, G.N., Connoly, J.L., D'Orsi, C.J., Edge, S.B, Mittendorf, E.A., Rugo, H.S., Solin, S.J., Weaver, D.L., Winchester, D.J., Giuliano, A. 2017, *AJCC Cancer Staging Manual, Eighth Edition*, The American College of Surgeons (ACS), Chicago, Illinois, DOI 10.1007/978-3-319-40618-3\_48.
- International Agency for Research on Cancer. 2012, *Estimated Cancer Incidence, Mortality and Prevalence Worldwide in 2012*, Diakses pada 20 Maret 2018, [http://globocan.iarc.fr/Pages/fact\\_sheets\\_cancer.aspx](http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx).
- Janelsins, M.C., Tejani, M., Kamen, C., Peoples, A., Mustian, K.M., dan Morrow, G.R. 2013, Current Pharmacotherapy for Chemotherapy-Induced Nausea and Vomiting in Cancer Patients, *Expert Opin Pharmacother*, **14(6)** : 757 – 766.
- Jordan, K., Sippel, C., dan Schmoll, H. 2007, *Guidelines for Antiemetic Treatment of Chemotherapy-Induced Nausea and Vomiting: Past, Present, and Future Recommendations*, Department of Internal Medicine IV, Oncology-Hematology, Martin-Luther-University Halle/Wittenberg, Halle/Saale, Germany.
- Kabel, A.M. dan Baali, F.H. 2015, Breast Cancer: Insights into Risk Factors, Pathogenesis, Diagnosis and Management, *Journal of Cancer Research and Treatment*, **3(2)** : 28 – 33, doi: 10.12691/jcrt-3-2-3.

Kementerian Kesehatan RI, 2015, Riset Kesehatan Dasar (RISKESDAS), Jakarta: Badan Litbang Kemenkes RI.

Kim, W.Y., Woo, S.U., Seo, J.H., Son, G.S., Lee, J.B., dan Bae, J.W. 2011, Toxicities, dose reduction and delay of docetaxel and paclitaxel chemotherapy in breast cancer without distant metastases, *Journal of Cancer Research and Therapeutics*, **7(4)** : 412 – 5.

Kuter, D.J. 2013, ‘General Aspects of Thrombocytopenia, Platelet Transfusions, and Thrombopoietic Growth Factors’ In: Kitchens, C., Kessler, C., Konkle, B., *Consultative Hemostasis and Thrombosis*. Elsevier Saunders, Philadelphia, pp 103.

Levin E.R., dan Hammes S.R. 2012, ’Hormones and Hormone Antagonist: Estrogen and Progestins’, in Brunton, L.L., Chabner, B.A., Knollmann, B.C., *Goodman and Gilman’s The Pharmacological Basis of Therapeutics*, 12<sup>th</sup> ed., The McGraw-Hill, San Fransisco, pp 1178.

Lyman, G.H., Lyman, C.H., dan Agboola, O. 2005, Risk Models for Predicting Chemotherapy-Induced Neutropenia, *The Oncologist*, **10(6)** : 427 – 37.

Makki, J. 2015, Diversity of Breast Carcinoma: Histological Subtypes and Clinical Relevance, *Clinical Medicine Insights : Pathology*, **(8)** : 23-31.

McCance, K.L. dan Huether, S.E. 2008, *Understanding Pathophysiology*, 4th ed., Elsevier Mosby, Australia.

Mehrara, B.J. dan Yo, A.Y. 2014, ‘Chapter 36: Breast Reconstruction’. in Harris, J.R., Lippman, M.E., Morrow, M., Osborne C.K., *Diseases of the Breast*, 5th ed, Wolters Kluwer Health, Philadelphia.

Miller, K., Wang, M., dan Gralow, J. 2007, Paclitaxel plus Bevacizumab versus Paclitaxel Alone for Metastatic Breast Cancer, *N Engl J Med*, **357(26)** : 2666-76.

Morrow, M. 2014, ‘Chapter 3: Physical Exam of the Breast’. in Harris, J.R., Lippman, M.E., Morrow, M., Osborne C.K., *Diseases of the Breast*, 5th ed, Wolters Kluwer Health, Philadelphia.

Morrow, M. dan Golshan, M. 2014, ‘Chapter 33: Mastectomy’. in Harris, J.R., Lippman, M.E., Morrow, M., Osborne C.K., *Diseases of the Breast*, 5th ed, Wolters Kluwer Health, Philadelphia.

- Notoatmodjo. 2010, *Metodologi Penelitian Kesehatan*, PT. Rineka Cipta, Jakarta.
- Nounou, M.I., ElAmrawy, F., dan Ahmed, N. 2015, Breast Cancer: Conventional Diagnosis and Treatment Modalities and Recent Patents and Technologies, *Breast Cancer: Basic and Clinical Research*, **9(2)** : 17–34, doi:10.4137/BCBCR.S29420.
- Pedoman Nasional Pelayanan Kedokteran, 2015. *Kanker Payudara*. Komite Penanggulangan Kanker Nasional : Kementerian Kesehatan, Jakarta.
- Petri, W.A. Jr. 2012, 'Penicillins, Cephalosporins, and other beta Lactam Antibiotics', in Brunton, L.L., Chabner, B.A., Knollmann, B.C., *Goodman and Gilman's The Pharmacological Basis of Therapeutics*, 12<sup>th</sup> ed., The McGraw-Hill, San Fransisco, pp 1496.
- Ripamonti, C.I., Santini, D., dan Maranzano, E. 2012, *Management of cancer pain: ESMO Clinical Practice Guidelines*, Supportive Care in Cancer Unit, Fondazione IRCCS, Istituto Nazionale Tumori, Milan, Italy.
- Senkus, E., Kyriakides, S., Ohno, S., Penault-Llorca, F., Poortmans, P., Rutgers, E., Zackrisson, S., dan Cardoso, F. 2015, *Primary breast cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up*, Department of Medical Oncology and Radiotherapy, Poland.
- Sharkey, K.A., dan Wallace, J.L. 2012, 'Treatment of Disorders of Bowel Motility and Water Reflux', in Brunton, L.L., Chabner, B.A., Knollmann, B.C., *Goodman and Gilman's The Pharmacological Basis of Therapeutics*, 12<sup>th</sup> ed., The McGraw-Hill, San Fransisco, pp 1341.
- Sharma, S., Sharma, P. Dan Tyler, L.N. 2011, Transfusion of Blood and Blood Products: Indications and Complications, *Am Fam Physician*, **83(6)** : 719-24.
- Suhag, V. 2005, *Palliative Therapy in Cancer Patients*, Department of Radiotherapy & Oncology, Govt. Medical College & Hospital, Chandigarh, India.
- Surakasula, A., Nagarjunapu, G.C., dan Ranghavaiaih, K.V. 2013, Breast cancer in pre- and post-menopausal women, *J Res Pharm Pract.*, **3(1)** : 12-18.

- Tan, S. dan Wolff, A.C. 2014, 'Chapter 71: Treatment of Metastatic Breast Cancer: Chemotherapy' in Harris, J.R., Lippman, M.E., Morrow, M., Osborne C.K., *Diseases of the Breast*, 5th ed, Wolters Kluwer Health, Philadelphia.
- Torre, L.A., Bray, F., Siegel, R.L., Ferlay, J., Lortet-Tieulent, J., dan Jemal, A. 2015, Global cancer statistics, 2012. *CA Cancer J Clin*, **65(2)** : 87-108.
- Watkins, T., Surowiecka, M.K., dan McCullough, J. 2014, Transfusion Indications for Patients With Cancer, *Cancer Control*, **22(1)** : 38-46.
- Weir, R., Day, P., Ali ,W. 2007, Risk factors for breast cancer in women, *NZHTA Report*, **10(2)** : 11-34.
- World Health Organization - Cancer Country Profiles, 2014. Diunduh dari: [www.who.int/cancer/country-profiles/idn\\_en.pdf](http://www.who.int/cancer/country-profiles/idn_en.pdf). Diakses pada maret 2018.
- Yager, J.D. dan Davidson, N.E. 2006, Estrogen Carcinogenesis in Breast Cancer, *N Engl J Med*, **354(3)** : 270-82.
- Zgajnar, J. 2018, 'Clinical Presentation, Diagnosis and Staging of Breast Cancer', in Wyld, L. *Breast Cancer Management for Surgeons*, Springer International Publishing AG, New York, pp 159-167, [https://doi.org/10.1007/978-3-319-56673-3\\_14](https://doi.org/10.1007/978-3-319-56673-3_14).