EXPRESSION OF ESTROGEN RECEPTOR (ER), PROGESTERONE RECEPTOR (PR), AND HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR-2 (HER-2) IN GROWTH AND METASTASES OF BREAST CANCER

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ABSTRACT

Introduction: Breast cancer is a multifactorial disease as a result of interaction between genetic and environmental factors such as hormonal, infection, chemical material, and radiation. Until now, it took as the most occurred of cancer in women, which have the highest mortality in the world. However, its cause still unknown. According to epidemiologic and clinical and laboratory studies, it was found that there are many risk factors which have important roles in female breast cancer like menarche, menopause, endogenous and exogenous hormones, family history (genetics), parity, lactation, obesity, physical activity, diet, alcohol, smoking, environmental factors and history of biopsy and breast examination. The aims of this study to evaluate and compare the clinicopathological features in the four breast cancer subtypes defined by immunohistochemistry expression of ER, PR, and HER-2: ER/PR+, HER-2+ (Luminal B); ER/PR+,HER-2- (Luminal A); ER/PR-, HER-2+ (HER-2 type) and ER-/PR-, HER-2- (Triple negative) type. Methods: This study was a retrospective study of 89 invasive breast cancer. Clinical and pathologic features of the four subtypes were compared. ER/PR+, HER2+; ER/PR+, HER2-; ER/PR-, HER2+; and ER/PR-,HER2- types were 10 (11.2%), 35 (39.3%), 27 (30.3%), and 17 (19.1%) samples. Results: Subjects with ER/PR-, HER2- where are likely to be younger (p<0.001). In tumor subtypes with HER2+, the number of subjects with poorly differentiated was larger than the total number of well and moderate differentiated (p < 0.001). There was no significant difference of metastatic to lymph node status in all subtypes. Conclusion: Subtype luminal A of breast cancer have a high number than other subtypes. There was a correlation between overexpression of HER-2 with poorly differentiated of breast cancer but not with a metastatic capability of tumor cells to lymph nodes.

Keywords : Luminal A, Luminal B, Her-2 type, Triple negative, breast cancer

INTRODUCTION

Breast epithelial neoplasms are the most frequently diagnosed neoplasm in women and more than 95% of breast cancer originate from epithelial, which is namely adenocarcinoma. Based on data from Globocan 2012, the breast cancer incidence ranks in second place and is the most common cancer in women in developing countries and developed countries with 1.67 million new cases (25% of all can-

cers) per year. Breast cancer is also the most common cause of death in women in developing countries (14.3% of total mortality due to cancer). In Indonesia, Globocan data from 2012 showed the incidence of breast cancer is 16.4% of all cancers with a mortality of 10.2% of total cancer mortality. Breast cancer is still the most common malignancy and the leading cause of death in women in Indonesia.[1]