

Factors Associated with Recurrence and Long-Term Survival in Younger and Postmenopausal Women with Breast Cancer

Authors : Sopit Tubtimhin, Chaliya Wamaloon, Anchalee Supattagorn

Abstract : Background and Significance: Breast cancer is the most frequently diagnosed and leading cause of cancer death among women. This study aims to determine factors potentially predicting recurrence and long-term survival after the first recurrence in surgically treated patients between postmenopausal and younger women. Methods and Analysis: A retrospective cohort study was performed on 498 Thai women with invasive breast cancer, who had undergone mastectomy and been followed-up at Ubon Ratchathani Cancer Hospital, Thailand. We collected based on a systematic chart audit from medical records and pathology reports between January 1, 2002, and December 31, 2011. The last follow-up time point for surviving patients was December 31, 2016. A Cox regression model was used to calculate hazard ratios of recurrence and death. Findings: The median age was 49 (SD \pm 9.66) at the time of diagnosis, 47% was post-menopausal women (\geq 51 years and not experienced any menstrual flow for a minimum of 12 months), and 53 % was younger women ($<$ 51 years and have menstrual period). Median time from the diagnosis to the last follow-up or death was 10.81 [95% CI = 9.53-12.07] years in younger cases and 8.20 [95% CI = 6.57-9.82] years in postmenopausal cases. The recurrence-free survival (RFS) for younger estimates at 1, 5 and 10 years of 95.0 %, 64.0% and 58.93% respectively, appeared slightly better than the 92.7%, 58.1% and 53.1% for postmenopausal women [HRadj = 1.25, 95% CI = 0.95-1.64]. Regarding overall survival (OS) for younger at 1, 5 and 10 years were 97.7%, 72.7 % and 52.7% respectively, for postmenopausal patients, OS at 1, 5 and 10 years were 95.7%, 70.0% and 44.5 respectively, there were no significant differences in survival [HRadj = 1.23, 95% CI = 0.94 -1.64]. Multivariate analysis identified five risk factors for negatively impacting on survival were triple negative [HR= 2.76, 95% CI = 1.47-5.19], Her2-enriched [HR = 2.59, 95% CI = 1.37-4.91], luminal B [HR = 2.29, 95 % CI=1.35-3.89], not free margin [HR = 1.98, 95%CI=1.00-3.96] and patients who received only adjuvant chemotherapy [HR= 3.75, 95% CI = 2.00-7.04]. Statistically significant risks of overall cancer recurrence were Her2-enriched [HR = 5.20, 95% CI = 2.75-9.80], triple negative [HR = 3.87, 95% CI = 1.98-7.59], luminal B [HR= 2.59, 95% CI = 1.48-4.54,] and patients who received only adjuvant chemotherapy [HR= 2.59, 95% CI = 1.48-5.66]. Discussion and Implications: Outcomes from this studies have shown that postmenopausal women have been associated with increased risk of recurrence and mortality. As the results, it provides useful information for planning the screening and treatment of early-stage breast cancer in the future.

Keywords : breast cancer, menopause status, recurrence-free survival, overall survival

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