

# Healthcare resource utilization for first line chemotherapy versus endocrine therapy in patients with advanced HR-positive/HER2-negative breast cancer in Taiwan

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## Abstract

### Objective

The goal of this retrospective database analysis was to describe treatment patterns, compare healthcare resource utilization, and evaluate frequency of potential treatment-related toxicity among patients with hormone receptor-positive (HR+) and human epidermal growth factor receptor 2-negative (HER2-) advanced breast cancer using upfront endocrine therapy or chemotherapy, as well as to assess the effect of choice of systemic treatment on survival outcome in Taiwan.

### Methods

Eligible HR+ HER2- advanced breast cancer patients were identified using Taiwan Cancer Registry from 2011-2017 and Taiwan National Health Insurance database from 2011-2018 and classified as those who received first line chemotherapy or endocrine therapy. Comparisons between these two groups were made in terms of number of hospitalization episodes, hospitalization duration, healthcare resource utilization and frequency of potential treatment-related toxicity. Survival outcomes were evaluated by Kaplan-Meier method.

### Results

There were 2,874 patients with HR+ HER2- advanced breast cancer during the study period, 42% of them received first line endocrine therapy and 56% received first line chemotherapy. Mean hospitalization episodes were higher in the first line chemotherapy group compared to first line endocrine therapy in the first year after initial breast cancer diagnosis, and the number of hospitalization episodes were similar in the second and third year. Treatment for adverse events likely to be associated with cancer treatment, such as blood transfusion, emergency department visits, use of granulocyte-stimulating colony factor, anti-inflammatory medication and intravenous antibiotics were more commonly administered in patients who received chemotherapy as initial therapy. Multiple regression analysis showed that first line chemotherapy as initial therapy was associated with higher level of healthcare resource utilization in the first year compared to first line endocrine therapy but the differences were not statistically significant in the second and third year. Use of chemotherapy or endocrine therapy were associated with similar survival outcomes over three years.

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## Conclusion

In Taiwan, a higher percentage of patients with HR+ HER2- advanced breast cancer were started on chemotherapy in the recent decade, more frequent hospitalizations and higher incidence of adverse events were associated with the use of chemotherapy, and they had higher healthcare resource utilization than those who were prescribed endocrine therapy. Data from this analysis can help inform optimal management of advanced breast cancer.

**[Keywords]** Taiwan National Health Insurance database, HR+ HER2- advanced breast cancer, chemotherapy, endocrine therapy, healthcare resource utilization