

Survival Status of Elderly Women with HR+ Early Breast Cancer: an Analysis of SEER Database

Hao Wang*, Hui Li, Shiwei Liu, Li Xia, Exian Mou, Miao Yu
Breast surgery, Sichuan Cancer Hospital and Institute,
The Affiliated Cancer Hospital School of Medicine, UESTC, Chengdu, China

No conflict of interests to declare.

Background

Women with HR+(ER and/or PR positive) in early breast cancer usually have a better outcome than other cancer variants. However, as the patient age, there were few reports on the survival status of elderly women in HR+ early breast cancer and concomitant diseases. Base on a large-scale population, the results of statistical analysis would aid in clinical decisions and effective interventions on the treatment of elderly patients.

Methods

Based on the Surveillance, Epidemiology, and End Results (SEER) database, elderly (age≥60) female patients diagnosed HR+ early breast cancer from 2010 to 2016 were included. They were divided into two groups: elderly patients (age 60-74, group A) and senior elderly patients (age≥75, group B). Kaplan-Meier survival analysis was used to compare the 5-year overall survival (OS) rate, cumulative mortality, and the proportion cause of death.

Conclusion

The risk of death in elderly HR+ early breast cancer patients was relatively increasing with age, especially the death caused by cardiovascular and cerebrovascular events. HR+/HER2+ patients have a higher risk of death requiring further intensive treatment. The age-related comorbidity risk and breast cancer subtypes should be considered in the treatment of these patients to make a comprehensive treatment decision.

Results

In total there were 147,969 cases were included, which were 100,091 cases in group A and 47,878 cases in group B. The 5-year OS in group A and B were 89.9% vs. 68.8% (HR 3.53, 95% CI 3.43-3.64, $P < 0.001$) respectively (Table 1). The proportion of HER2- and HER2+ cases in group A were 90.2% and 9.8%, which 5-year OS were 90.2% vs. 87.7% (HR 0.77, 95% CI 0.72-0.83, $P < 0.001$) (Table 1). The proportion of HER2- and HER2+ cases in group B were 91.9% and 8.1%, which 5-year OS were 69.5% vs. 61.0% (HR 0.70, 95%CI 0.66-0.75, $P < 0.001$) (Table 1). There was no significant difference in cumulative mortality between breast and non-breast cancer related deaths (HR: 0.98, 95% CI 0.93-1.03, $P = 0.4$) in group A (Figure 1); but that was significantly difference in group B (HR: 0.77, 95% CI 0.733-0.799, $P < 0.001$) (Figure 2). The primary non-breast related death in group A were diseases of the heart (12.1%), COPD and related conditions (4.8%); while in group B that were diseases of the heart (20.43%) and cerebrovascular disease (5.4%).

Survival (year)	60-74			>=75		
	All (%)	HER2-(%)	HER2+(%)	All (%)	HER2-(%)	HER2+(%)
1	98.6	98.7	97.9	94.8	95.0	92.9
2	96.9	97.0	95.9	88.7	89.1	84.4
3	94.7	94.8	93.1	82.3	82.8	75.7
4	92.3	92.5	90.5	75.6	76.3	67.1
5	89.9	90.2	87.7	68.8	69.5	61.0
6	87.1	87.4	84.5	62.2	63.0	53.4

TABLE1: The survival status between elderly age (60-74) group and senior elderly age (≥75) group.

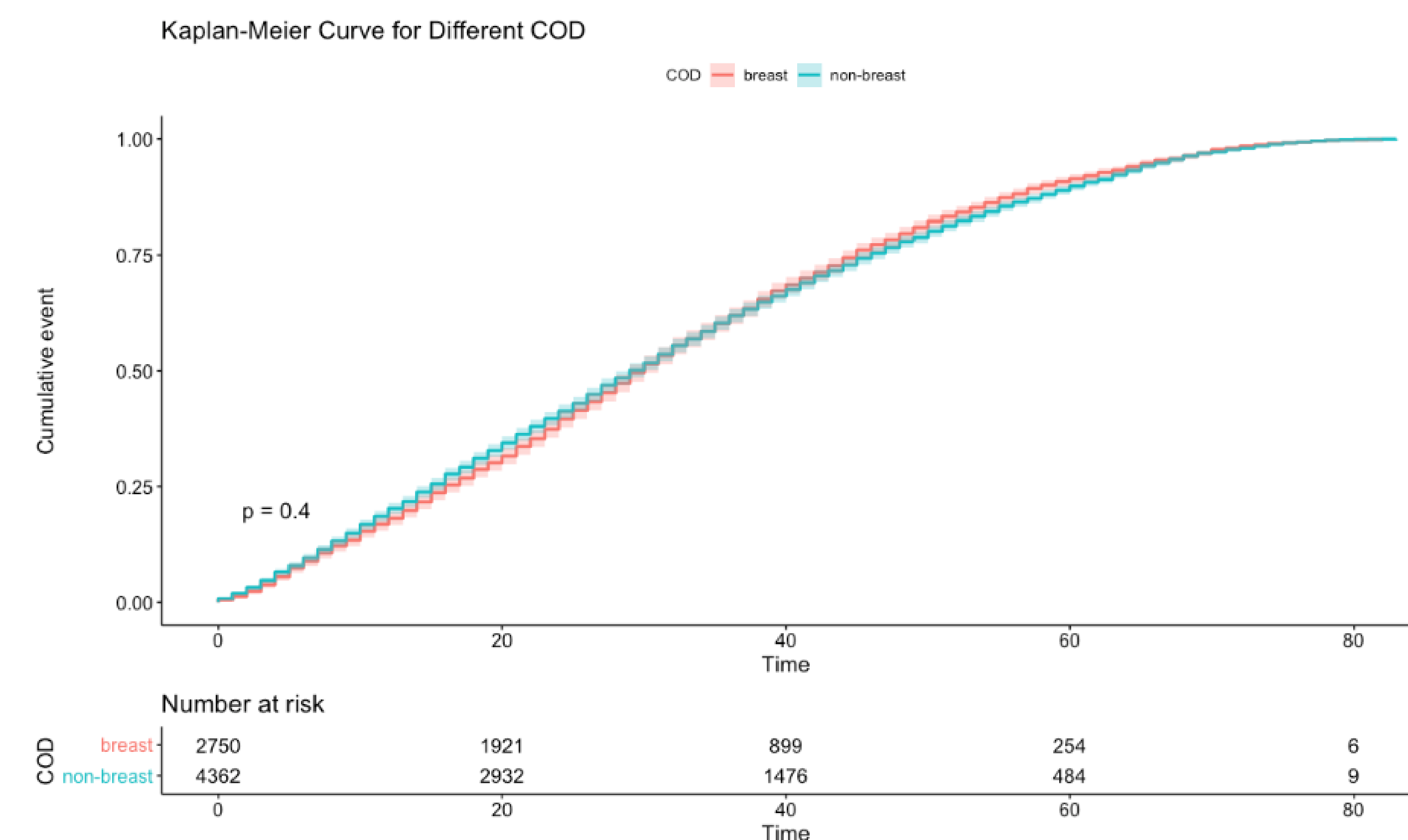


Figure 1: The cumulative mortality of breast and non-breast cancer groups in age 60-74 patients (COD: cause of death)

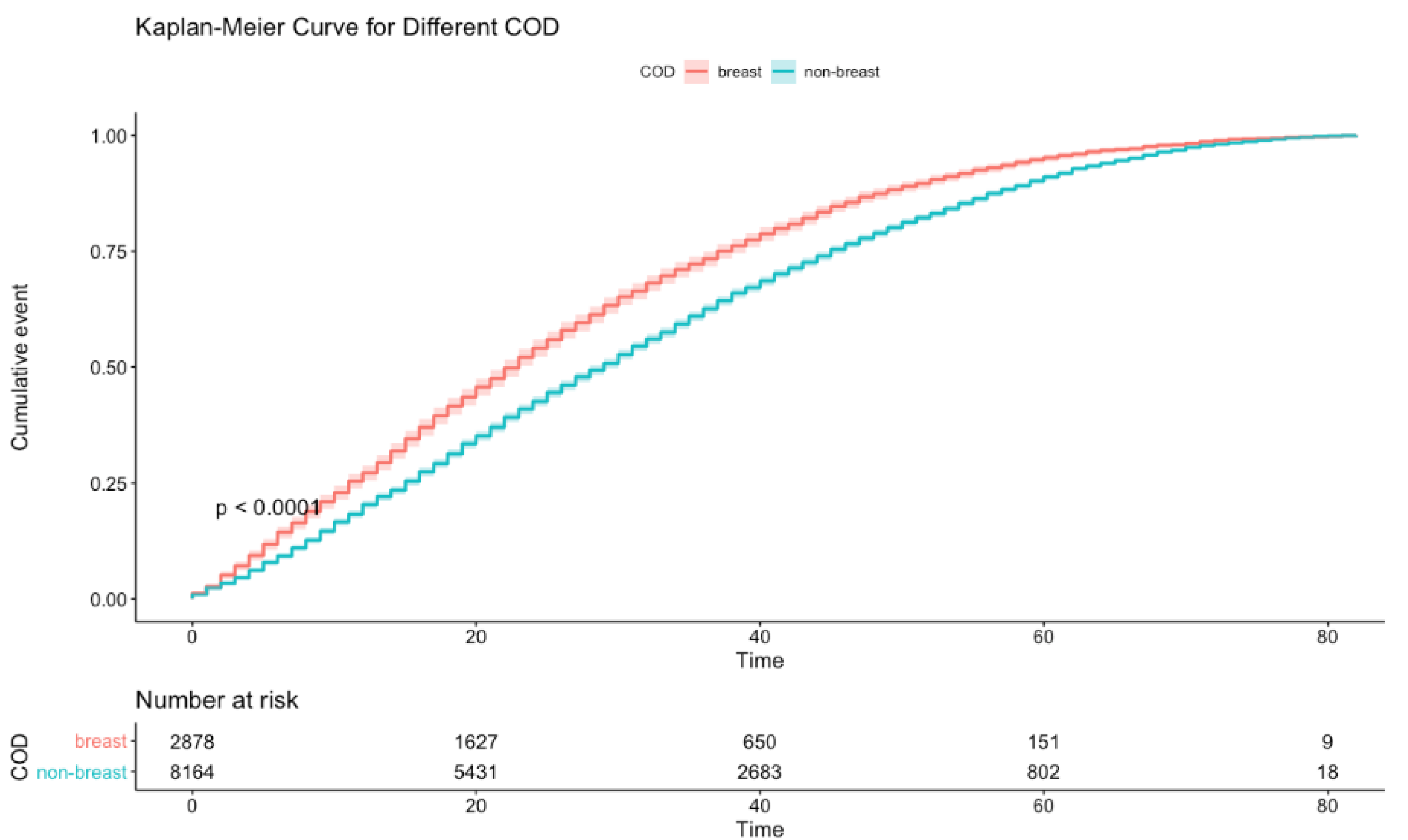


Figure 2: The cumulative mortality of breast and non-breast cancer groups in age ≥75 patients (COD: cause of death)

Acknowledge

This study was sponsored by Wu Jieping Medical Foundation (320.6750.2020-07-7).

*Corresponding Email: unique214@163.com