

#### Clinical Characteristics and Outcomes of Invasive Lobular Carcinoma in Chinese Women



Qian Zhao<sup>1,2†</sup>; Miao Mo<sup>3</sup>; Bing-qiu Xiu <sup>1,2</sup>; Guang-yu Liu<sup>1,2\*</sup>

<sup>1</sup>Department of Breast Surgery, Fudan University, Shanghai Cancer Center, Shanghai, People's Republic of China; <sup>2</sup>Department of Oncology, Shanghai Medical College, Fudan University, Shanghai, People's Republic of China; <sup>3</sup>Clinical Statistics Center, Department of Oncology, Shanghai Medical College, Fudan University, Shanghai, People's Republic of China.

Email: <u>22211230035@m.fudan.edu.cn</u>; liugy688@163.com

## Lay abstract

**Background:** No definitive conclusions have been drawn as to whether there is a difference in prognosis between ILC and IDC.

**Methods:** This retrospective study included 1,456 patients diagnosed with ILC at our center during the period 2006-2022, after excluding patients with incomplete clinical information as well as follow-up information. We analyzed the clinicopathological characteristics and survival data of ILC and compared them with IDC in the same period.

**Results:** 89.6% of patients were hormone receptor-positive, while 63.1% of patients had no HER2 amplification. Mastectomy was performed in 72.6 % of the patients, while only 26.2 % underwent breast-conserving surgery. The median follow-up was 34.5 months. The prognosis of patients was comparable in both surgical approaches. ILC had a worse prognosis than IDC compared with IDC.

**Conclusion:** Patients with ILC received the same survival benefit from mastectomy versus breast-conserving surgery. ILC has a worse prognosis compared to IDC.

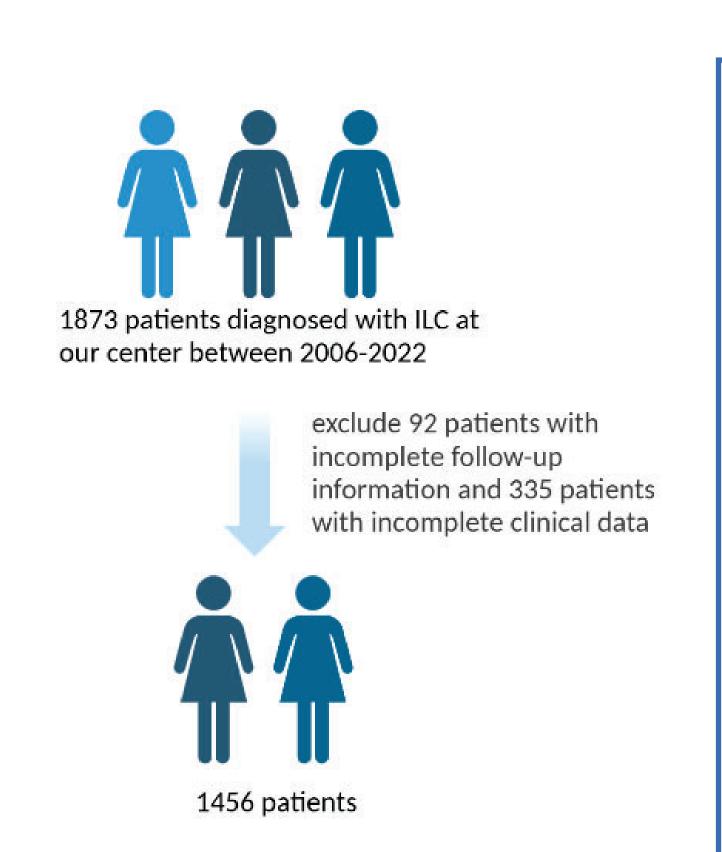
#### Abstract

**Background:** Infiltrating ductal carcinoma(IDC) is the most predominant type of breast cancer, followed by invasive lobular carcinoma (ILC), which accounts for roughly 5%-15%. ILC exhibits features associated with a good prognosis, such as low grading and positive hormone receptors. ILC is still a relatively complicated disease. We reviewed patients diagnosed with ILC in our center between 2006-2022 in order to gain a better understanding of this type and to help formulate clinical treatment strategies.

**Methods:** This retrospective study included 1,456 patients diagnosed with ILC at our center during the period 2006-2022, after excluding patients with incomplete clinical information as well as follow-up information. We analyzed the clinicopathological characteristics and survival data of ILC and compared them with IDC in the same period.

**Results:** The median age was 53 years old, with 90.5% of patients in the 40-80 age group. 43.3% of ILC patients had multifocal tumors. 89.6% of patients were hormone receptor-positive, while 63.1% of patients had no HER2 amplification. Mastectomy was performed in 72.6 % of the patients, while only 26.2 % underwent breast-conserving surgery. The median follow-up was 34.5 months. The prognosis of patients was comparable in both surgical approaches. ILC had a worse prognosis than IDC compared with IDC patients during the same period, which held true after excluding the effects of time period, staging, hormone receptor, and HER2 status. **Conclusion:** Patients with ILC received the same survival benefit from mastectomy versus breast-conserving surgery. ILC has a worse prognosis compared to IDC.

# Methods

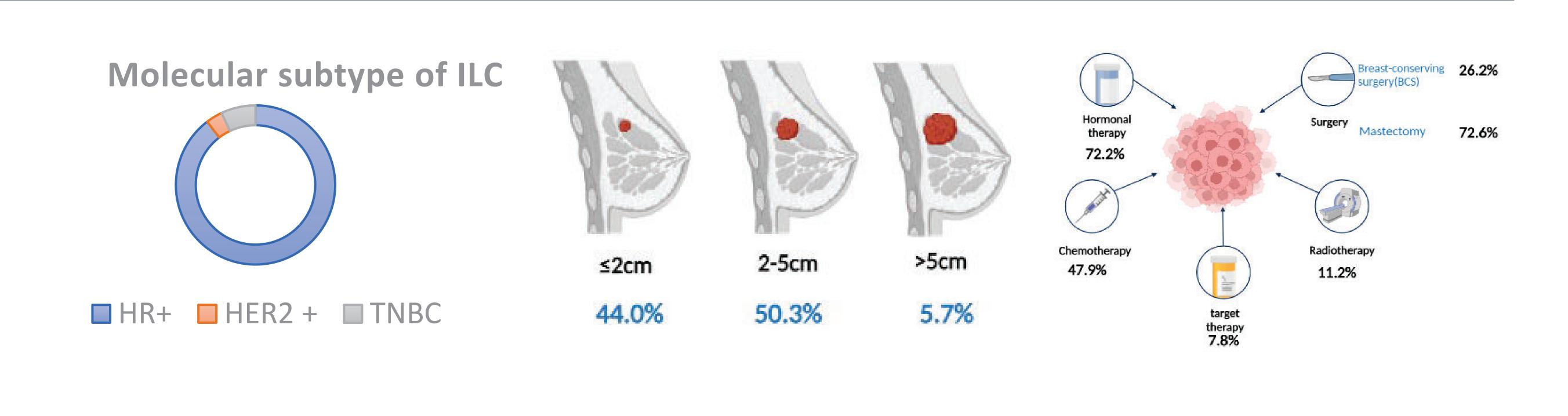


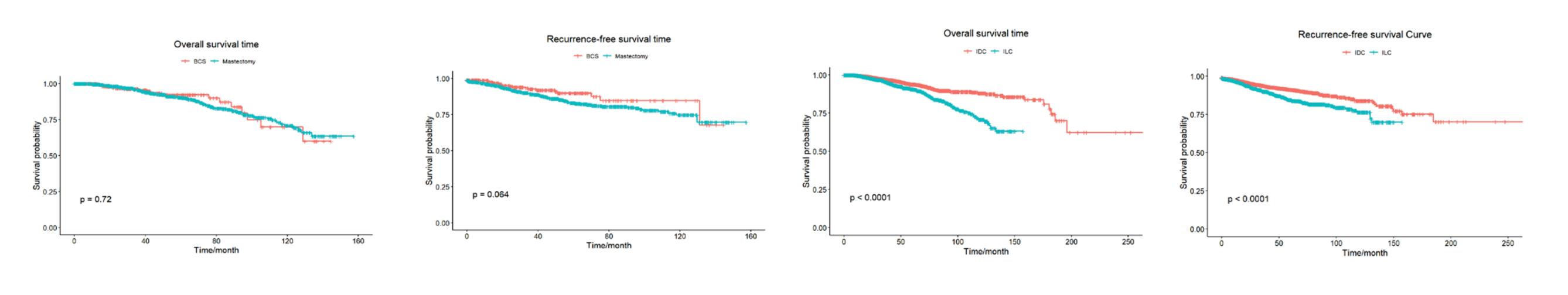
## **Endpoints:**

Overall Survival(OS): the time from diagnosis to the date of death from any causes.

Recurrence/ metastasis-Free Survival (RFS): the time between the first date of diagnosis to any locoregional recurrence, any distant metastasis of the disease, or death.

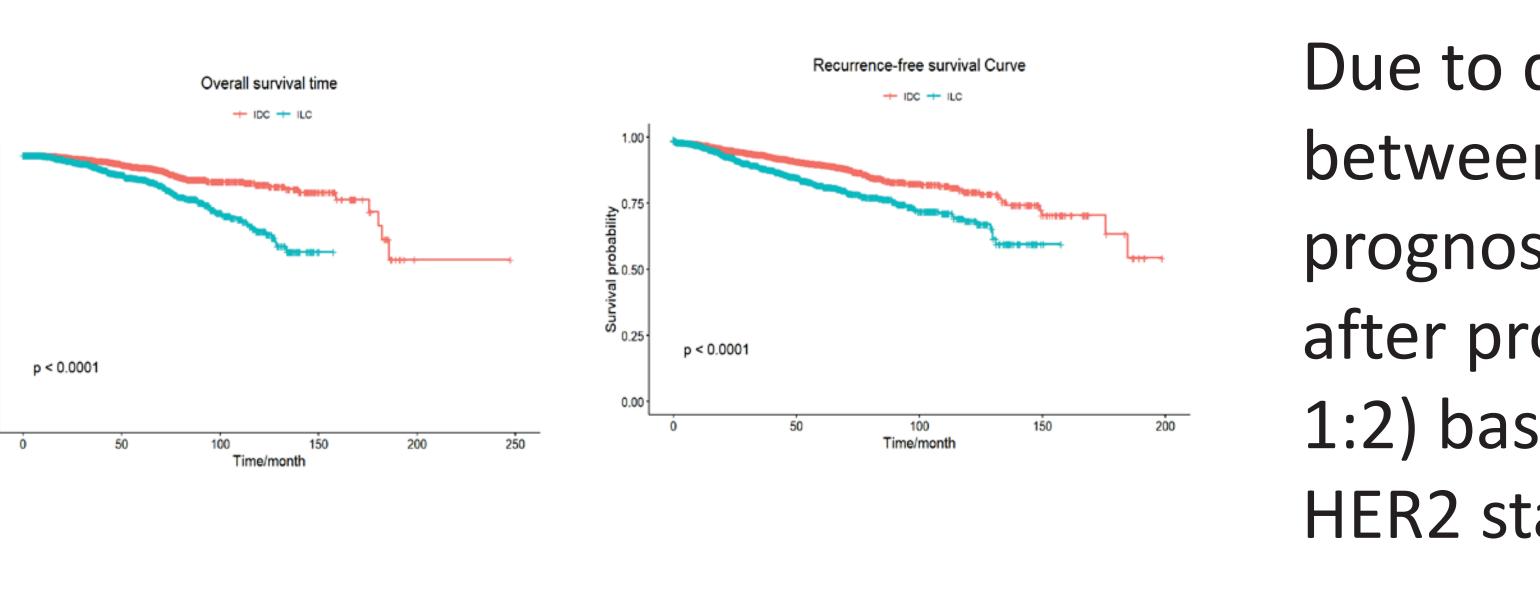
## Results

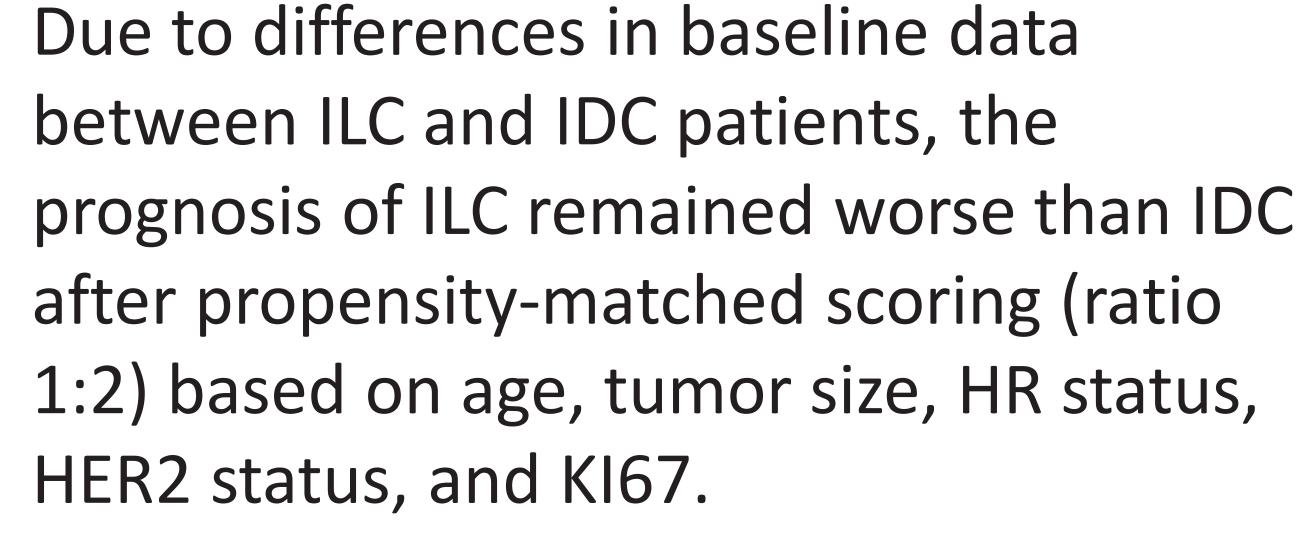


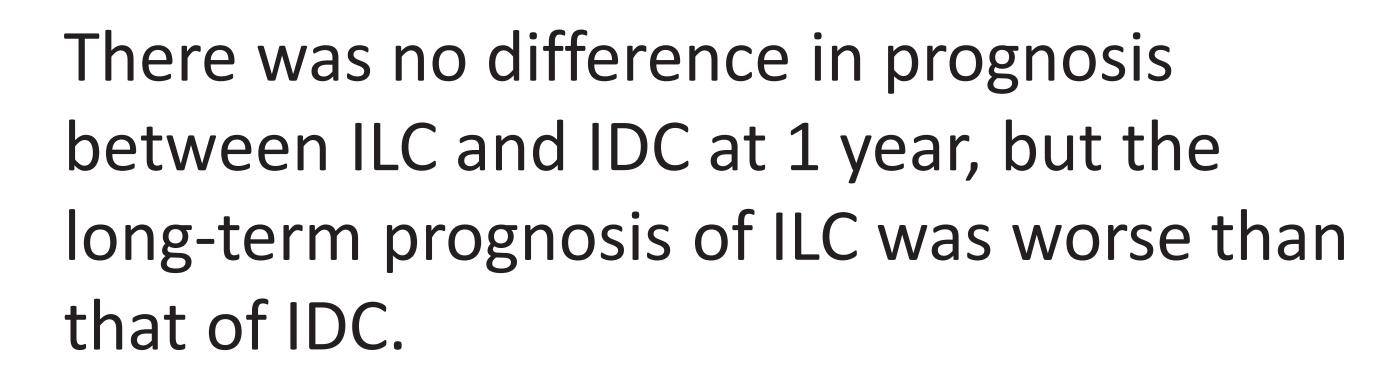


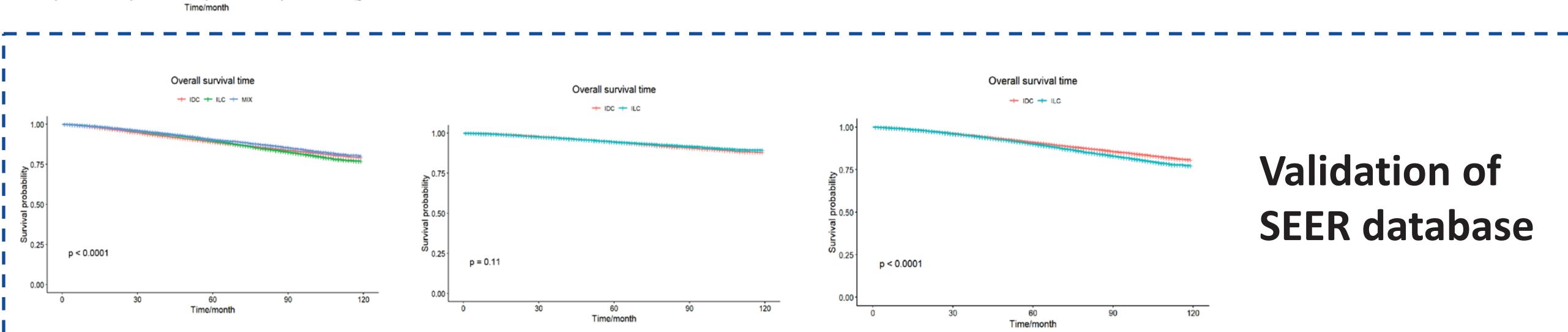
Outcomes	ILC
Follow-up (month)	34.5(0.0-157.3)
OS 1-year 2-year 5-year	99.6% 97.8% 90.8%
RFS 1-year 2-year 5-year	96.6% 93.4% 84.5%

Patients with ILC had a worse prognosis than patients with IDC in the same time period. This was similar to the results of an article from our center in 2022 and another article using the SEER database but differed from the results of an article from our center in 2012, which reported a similar prognosis for IDC and ILC.









The prognosis of ILC was not statistically different from IDC after propensity-matched scoring (ratio 1:2) according to the clinical variables in the SEER database included, while for HR+ patients, the prognosis of ILC was worse than that of IDC.

#### Conclusion

Patients with ILC received the same survival benefit from mastectomy versus breast-conserving surgery. ILC has a worse prognosis compared to IDC.

- Han B, Gu Z, Liu Z, Ling H. Clinical Characteristics and Survival Outcomes of Infiltrating Lobular Carcinoma: A Retrospective Study of 365 Cases in China. Cancer Manag Res. 2022 Feb;
- Yang LP, Sun HF, Zhao Y, Chen MT, Zhang N, Jin W. Clinicopathological characteristics and survival outcomes in pleomorphic lobular breast carcinoma of the breast: a SEER population-based study. Cancer Med. 2017 Dec;
- Cao AY, Huang L, Wu J, Lu JS, Liu GY, Shen ZZ, Shao ZM, Di GH. Tumor characteristics and the clinical outcome of invasive lobular carcinoma compared to infiltrating ductal carcinoma in a Chinese population. World J Surg Oncol. 2012 Jul;
- Zhao H. The prognosis of invasive ductal carcinoma, lobular carcinoma and mixed ductal and lobular carcinoma according to molecular subtypes of the breast. Breast Cancer. 2021 Jan;