

Socio-economic status influences likelihood of undergoing surgical treatment for pancreatic cancer in the Netherlands



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Introduction

In the USA, a high socio-economic status (SES) has been shown to be associated with a higher likelihood for surgical treatment and improved survival. In the Netherlands the health care system is not comparable to that in the USA and the effects of SES might be different. The aim of this study is to analyse the influence of SES on surgical treatment and survival in non-metastasized (M0) pancreatic-cancer patients in the Netherlands.

Methods

All patients diagnosed with M0-pancreatic cancer between 2005 and 2013 in the Eindhoven Cancer Registry (ECR), the Netherlands were included. Data on patient characteristics, tumour characteristics and treatment were extracted. Patients with missing tumour stage, diagnosed with tumour in situ (TNM 0), missing data on SES or categorised as institutionalised SES were excluded (n=131). Patients were grouped as surgical treated or not surgical treated. Groups were compared using chi-square tests.

SES was categorized as Low socio-economic status (Low SES), Intermediate socio-economic status (Intermediate SES), or High socio-economic status (High SES).

The influence of SES on the likelihood for surgical treatment was assessed by multivariable logistic regression. Influence of SES on overall survival was analysed by multivariable Cox regression analysis.

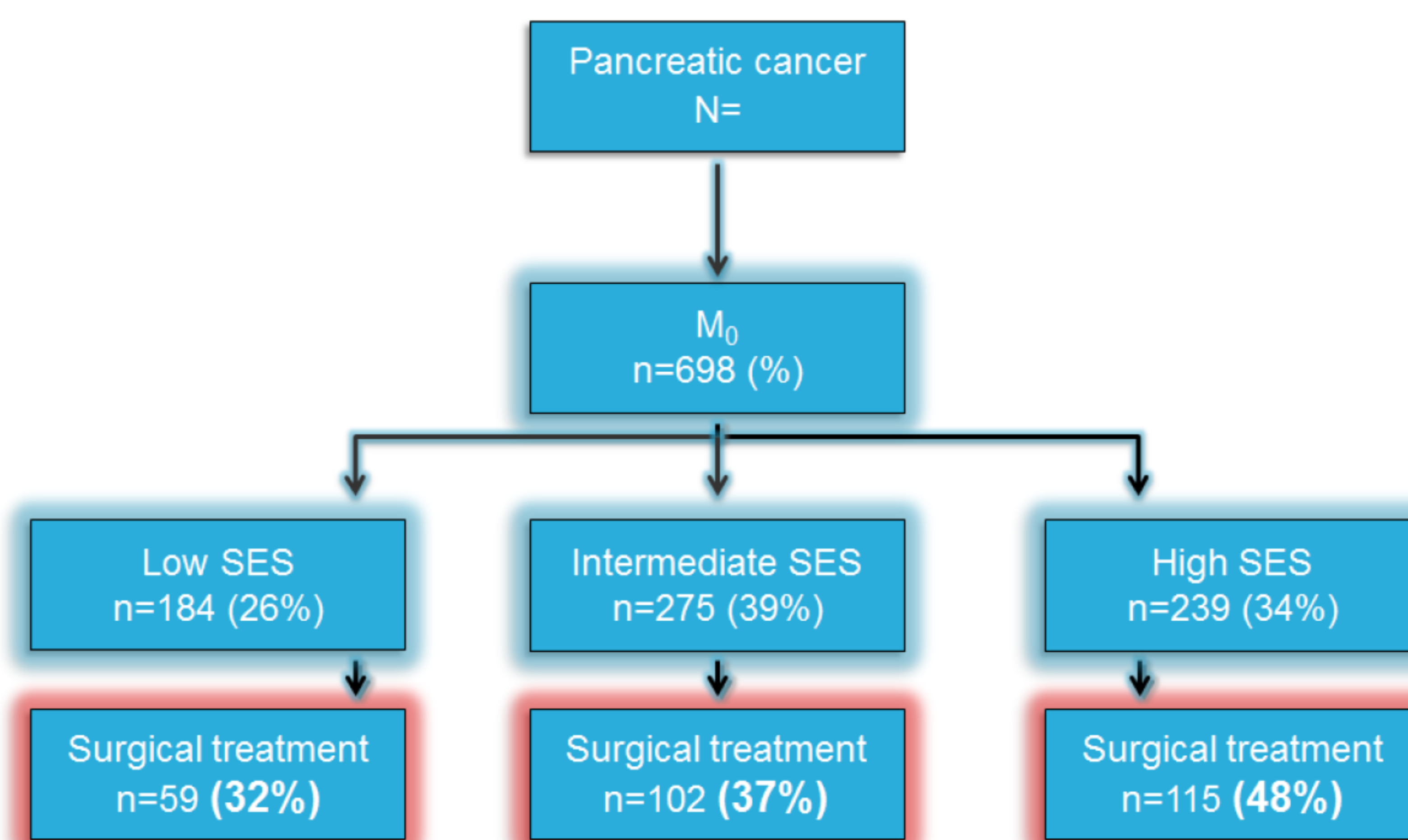


Figure 1.

Pancreatic cancer patients diagnosed between 2005 and 2013 in the Eindhoven cancer registry in the Netherlands.

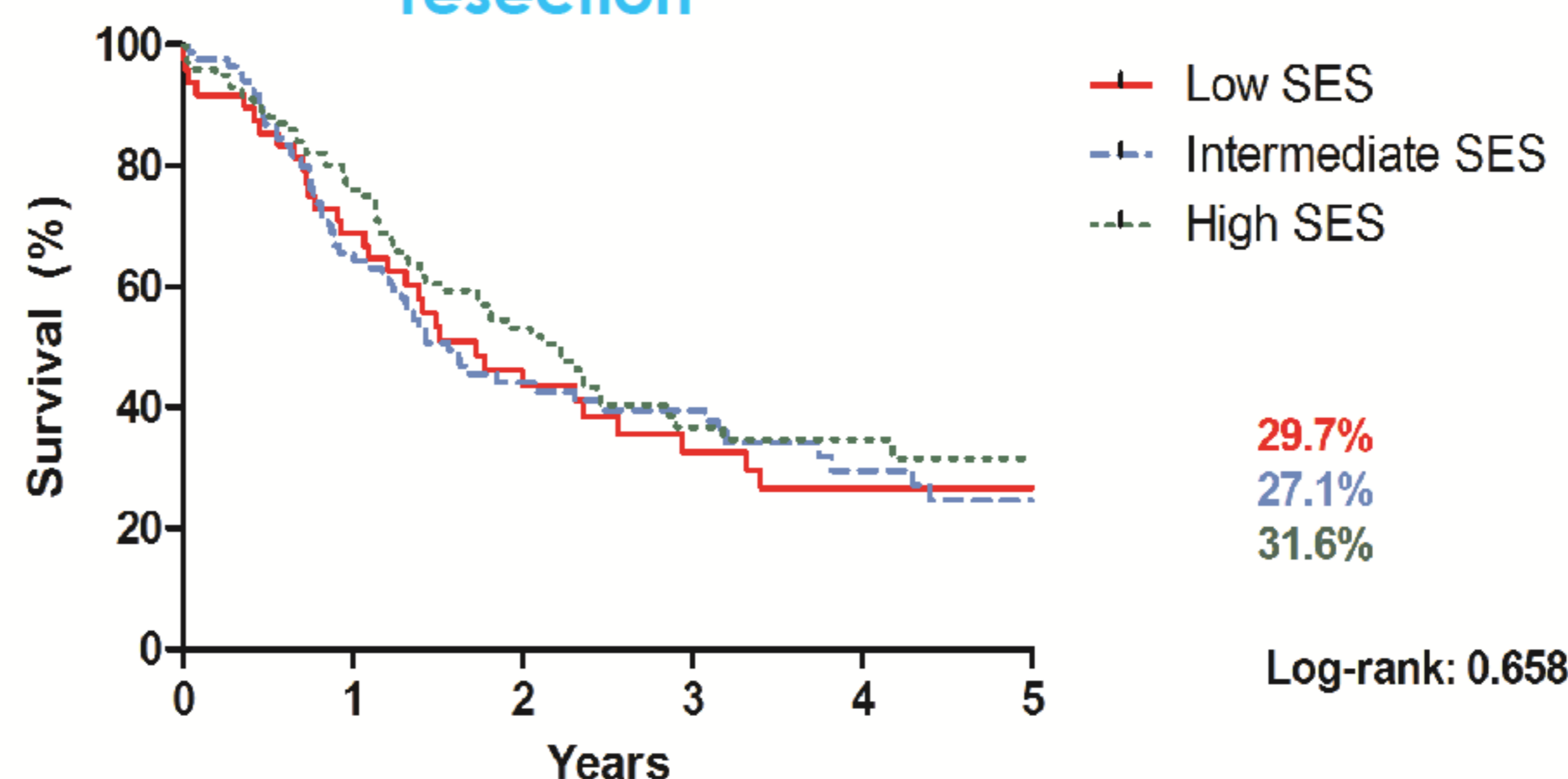
Results

In total 698 M0-patients were included. Of these patients 40% underwent surgical treatment. Patients with low SES and intermediate SES were less likely to undergo surgical treatment (21% vs 37%) than patients with high SES (42%) (p=0.002; Low SES: odds ratio (OR) 0.63, 95% confidence interval (CI) [0.40-0.98]; Intermediate SES: OR 0.62, 95% CI [0.42-0.92]). Survival was not different between these SES groups (Low SES: hazard ratio (HR) 1.05 95% CI [0.85-1.30]; Intermediate SES: HR 1.11, 95% CI [0.91-1.35]).

Conclusion

Socio-economic status in pancreatic-cancer patients determined the likelihood for surgical treatment. However, SES had no influence on survival. As surgical treatment is the only option for long-term survival in pancreatic cancer patients, it is important to provide more insights in the causes of these inequalities to ultimately minimize the effects of SES in pancreatic-cancer care.

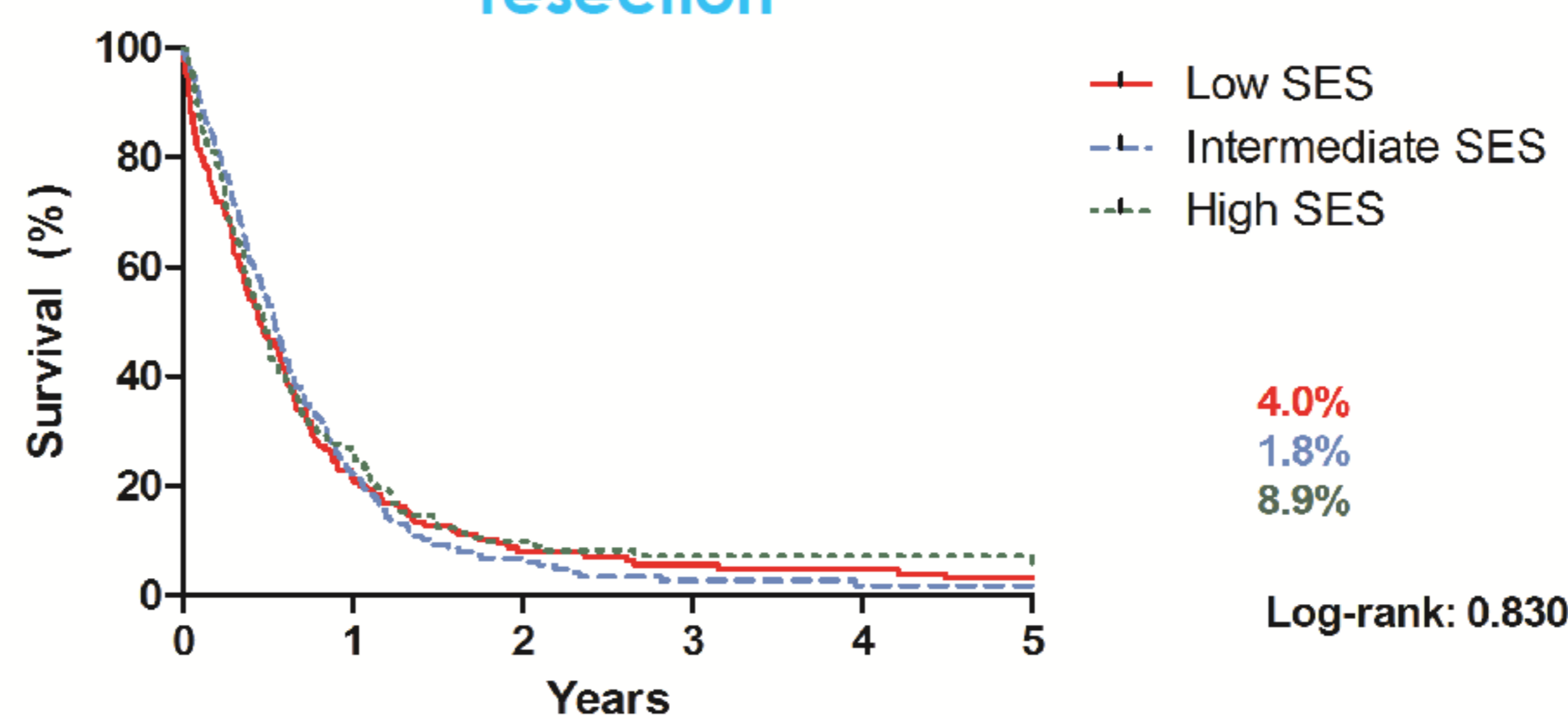
M₀-pancreatic cancer patients treated by resection



Number at risk

Low SES	48	34	20	12	9	8
Intermediate SES	84	56	32	24	14	10
High SES	100	77	42	21	12	10

M₀-pancreatic cancer patients not treated by resection



Number at risk

Low SES	136	11	7	8	7	5
Intermediate SES	191	12	3	5	3	3
High SES	139	13	6	8	6	5

Figure 2a and 2b.

Kaplan-Meier five-year survival of M₀-pancreatic cancer patients according to socio-economic status.

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