Abstract / Povzetek predavanja

Impact of Surgical Volume on Gastric Cancer Survival in Slovenia: Preliminary Results

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INTRODUCTION

The relationship between hospital surgical volume and gastric cancer survival remains debated(1–6). This study evaluates the impact of surgical volume on survival in Slovenia, where surgical centralization is unregulated.

METHODS

We conducted a retrospective cohort study including 1,014 patients with all types of gastric cancer, among them 868 with adenocarcinoma, diagnosed between 2016 and 2020. Data were extracted from the Slovenian Cancer Registry. Patients were stratified into high- and low-volume surgical centers. Survival analysis was performed using Kaplan-Meier estimates for overall survival and Pohar-Perme methodology for net survival, with adjustments for age, sex, and cancer stage.

RESULTS

Approximately 75% of patients underwent surgery at two high-volume university hospitals. Median survival for all gastric cancers was 5.8 years in high-volume centers versus 4.0 years in low-volume centers. Among adenocarcinoma patients, the median survival was 4.5 years in high-volume versus 3.4 years in low-volume centers. The log-rank test showed statistically significant differences in survival for both all-cause gastric cancer ($p = 0.021$) and adenocarcinoma ($p = 0.03$). The benefit of high-volume centers persisted across subgroups stratified by sex, age, and cancer stage.

CONCLUSION

High surgical volume is associated with improved survival in gastric cancer patients in Slovenia. These results highlight the potential benefits of strategic surgical centralization in small healthcare systems. A more detailed analysis is underway and will be published in a forthcoming manuscript.

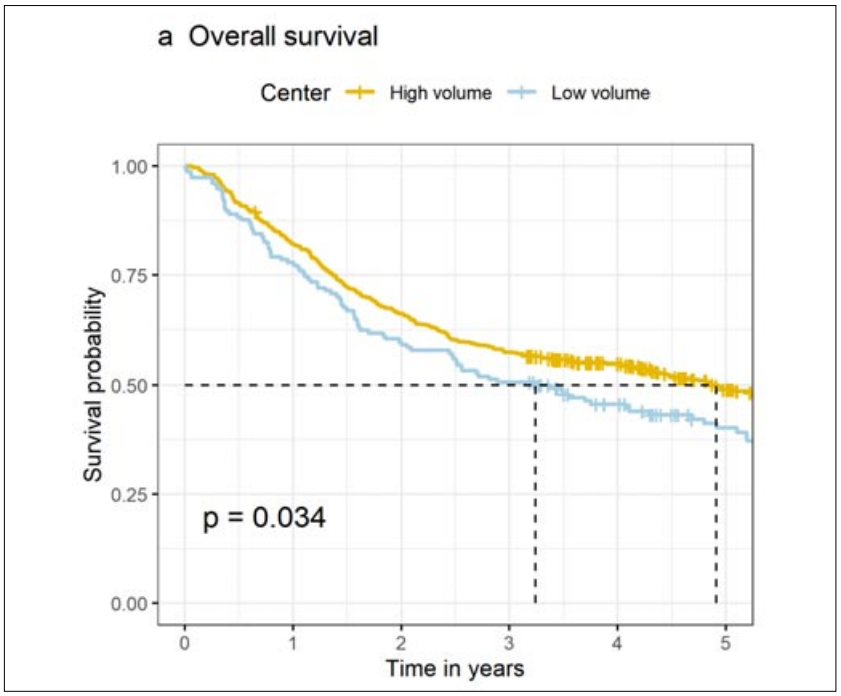

Figure 1: Kaplan-Meier survival analysis with Log-rank test group comparison: Better survival for gastric adenocarcinoma patients operated in high-volume centers ($\chi^2 = 4.56$, $df = 1$, $p = 0.03$)

Table 1 Overall survival (Kaplan-Meier survival and Log-rank test group comparison) and net survival (Pohar-Perme Net survival and Log-rank type test group comparison).

variables		Overall survival		Net survival	
Gastric cancer – all types	**df**	**chi square**	**p**	**test statistics**	**p**
center	1	5,366	**0,021**	3,606	0,058
center and sex	3	10,088	**0,018**	5,682	0,128
center and age	5	47,945	**<0,001**	13,621	**0,018**
center and stage	5	231,323	**<0,001**	195,868	**<0,001**
Gastric adenocarcinoma	**df**	**chi square**	**p**	**test statistics**	**p**
center	1	4,56	**0,03**	3,20	0,074
center and sex	3	5,60	0,13	3,48	0,323
center and age	5	42,29	**<0,001**	17,93	**0,003**
center and stage	5	180,35	**<0,001**	165,55	**<0,001**

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