



Utilization of Neoadjuvant Therapy for Low-Risk Gastric Gastrointestinal Stromal Tumors and the Association with Survival



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BACKGROUND

- Imatinib in the treatment of GISTs is primarily used in the **adjuvant setting** as a result of the ACOSOG Z9001 and SSG XVIII/AIO Trials demonstrating **improved recurrence free and overall survival among GISTs exhibiting high risk features.**
- Current National Comprehensive Cancer Center (NCCN) guidelines recommend **neoadjuvant imatinib for GISTs in the setting of multi-visceral involvement or limited metastatic disease.**
- However, whether less aggressive GISTs benefit from neoadjuvant therapy (NAT) remains unknown.

RESEARCH OBJECTIVES

- (1) To characterize the practice patterns and factors associated with NAT use in patients with low-risk gastric GISTs.
- (2) To evaluate survival outcomes among patients treated with NAT compared with upfront surgical resection in patients with low-risk gastric GISTs.

METHODS

Patients ≥ 18 years of age were evaluated from the Gastric National Cancer Database (NCDB) who received either **neoadjuvant therapy versus upfront resection for low-risk gastric GISTs.**

Exclusion Criteria:

- Underwent palliative intent resection
- Patients with node positive and/or metastatic disease
- Patients who did not undergo definitive surgical resection following completion of NAT
- Tumors with evidence of extension beyond the gastric wall
- Tumors located in the cardia

Primary Outcomes: factors associated with utilization of NAT

Secondary Outcomes: overall survival, stratified by tumor size

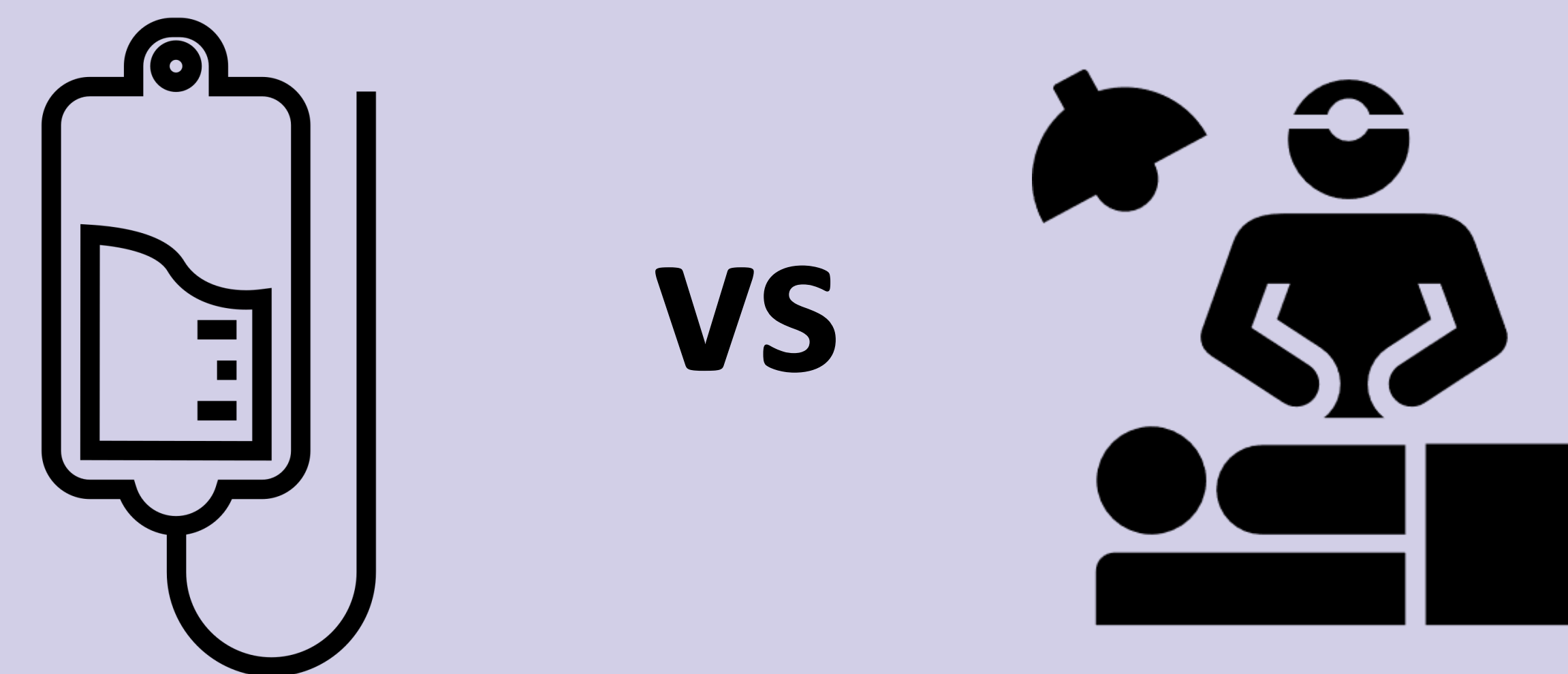
Multivariable logistic regression models assessed the association of patient, hospital, and tumor factors with receipt of NAT.

Kaplan Meier methods and **Cox proportional hazard regression** assessed the association of NAT with **overall survival** and stratified by tumor size.

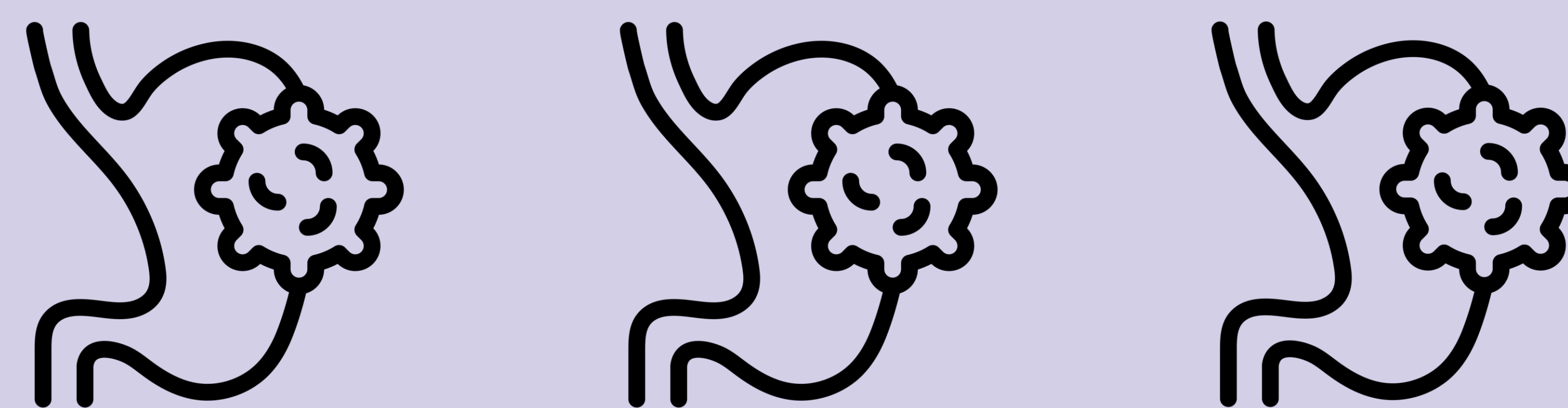
Patients underwent **1:1 Propensity Score Matching** based on age, race, facility type, year of diagnosis, and tumor size.

CONCLUSION

Although patients who received neoadjuvant therapy had improved overall survival, this was primarily due to tumors >5.0cm among patients with low-risk gastric GISTs.



Expanding neoadjuvant therapy selection criteria to include low-risk gastric GISTs >5.0cm may improve outcomes and warrants investigation through future randomized clinical trials.



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RESULTS

Figure 1. Study cohort.

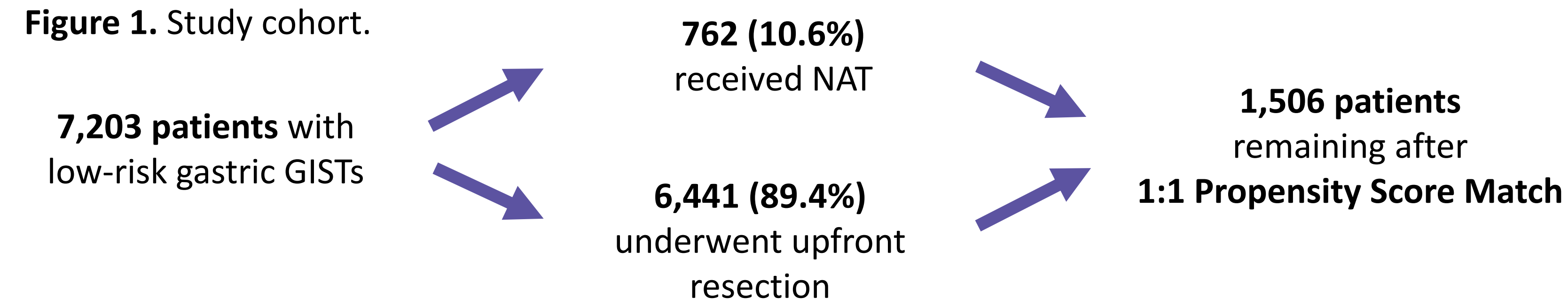


Figure 2. Trends in use of NAT for low-risk gastrointestinal GISTs over time.

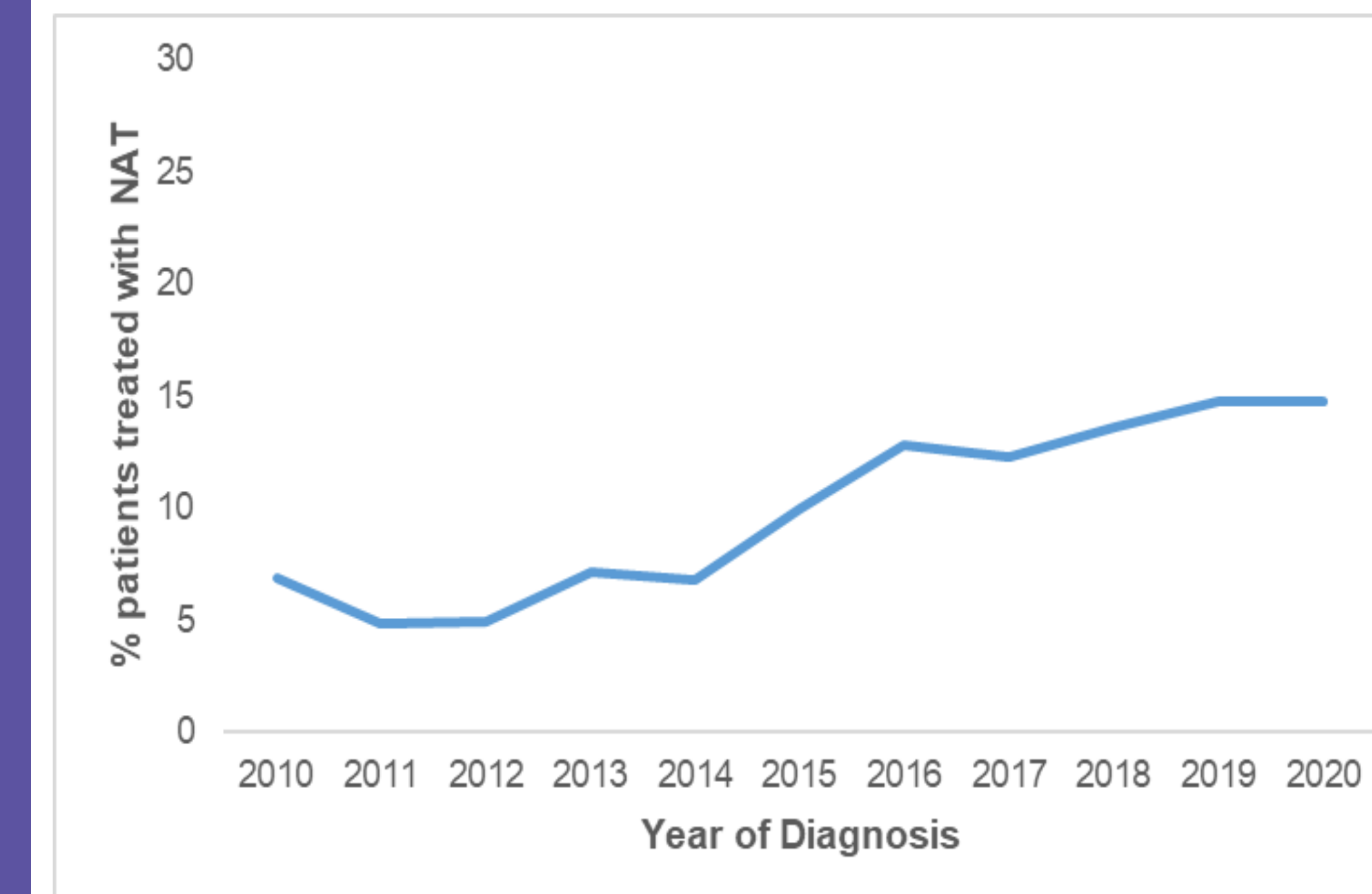


Table 1. Factors associated with NAT use.

Factor	OR (95% CI)
Facility Type	
Academic	1.00 (REF)
Community	0.47 (0.29-0.76)
Comprehensive	
Community	0.51 (0.39-0.67)
Integrated	
Network	0.71 (0.52-0.97)
Tumor Size	
<2.0 cm	1.00 (REF)
2.0-5.0 cm	2.03 (1.19-3.47)
>5.0 cm	16.87 (10.02-28.40)

*Also assessed age, sex, race, comorbidities, and tumor location.

Figure 3. Kaplan-Meier curves comparing survival between patients treated with upfront resection versus NAT among a) all patients with low-risk GISTs, b) tumors <2.0 cm, (c) tumors 2.0-5.0 cm, and (d) tumors >5.0 cm in size.

