

Recovery-Focused Robotic Transhiatal Esophagectomy Enables Early Discharge Without Compromising Oncologic Outcomes

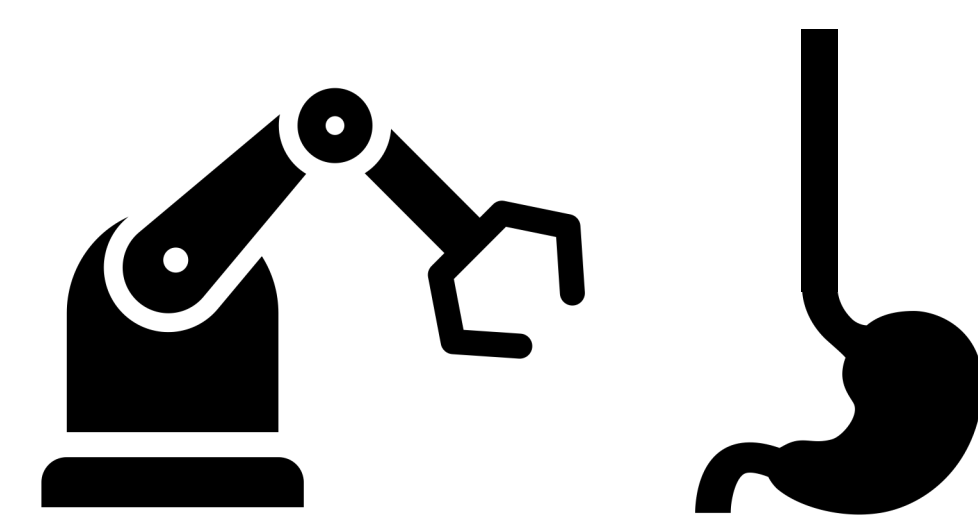
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Background

- Esophagectomy is a crucial component of esophageal cancer treatment
- However, it is associated with high morbidity and prolonged hospitalization
- We evaluated whether a **robotic transhiatal esophagectomy (RTHE)** approach focused on **early esophagram and oral feeding, selective J-tube use, and reduced ICU admission** could enable earlier discharge without compromising safety or oncologic outcomes

Methods

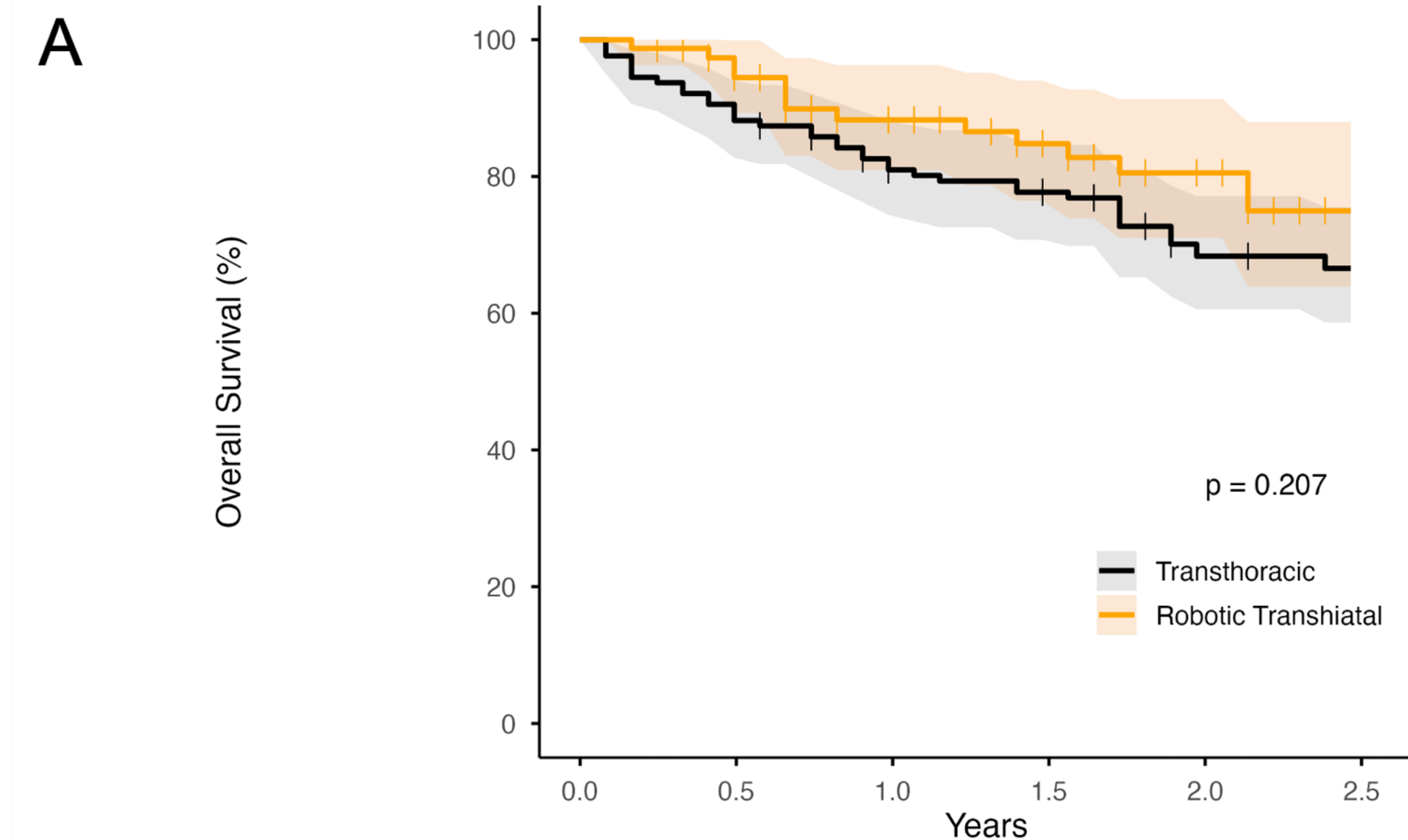


**Single Institutional Retrospective Cohort
(Feb 2020 – Dec 2025)**
206 Esophagectomy Recipients
Robotic Transhiatal (RTHE): n=79
Transthoracic (TTE): n=127

- Multivariate Cox proportional hazards regression and Fine and Gray subdistribution hazard models: factors associated with overall survival and recurrence-free survival
- Multivariate regression model: factors associated with hospital length of stay (LOS)
- RTHE divided into chronological tertiles to assess learning-curve effects

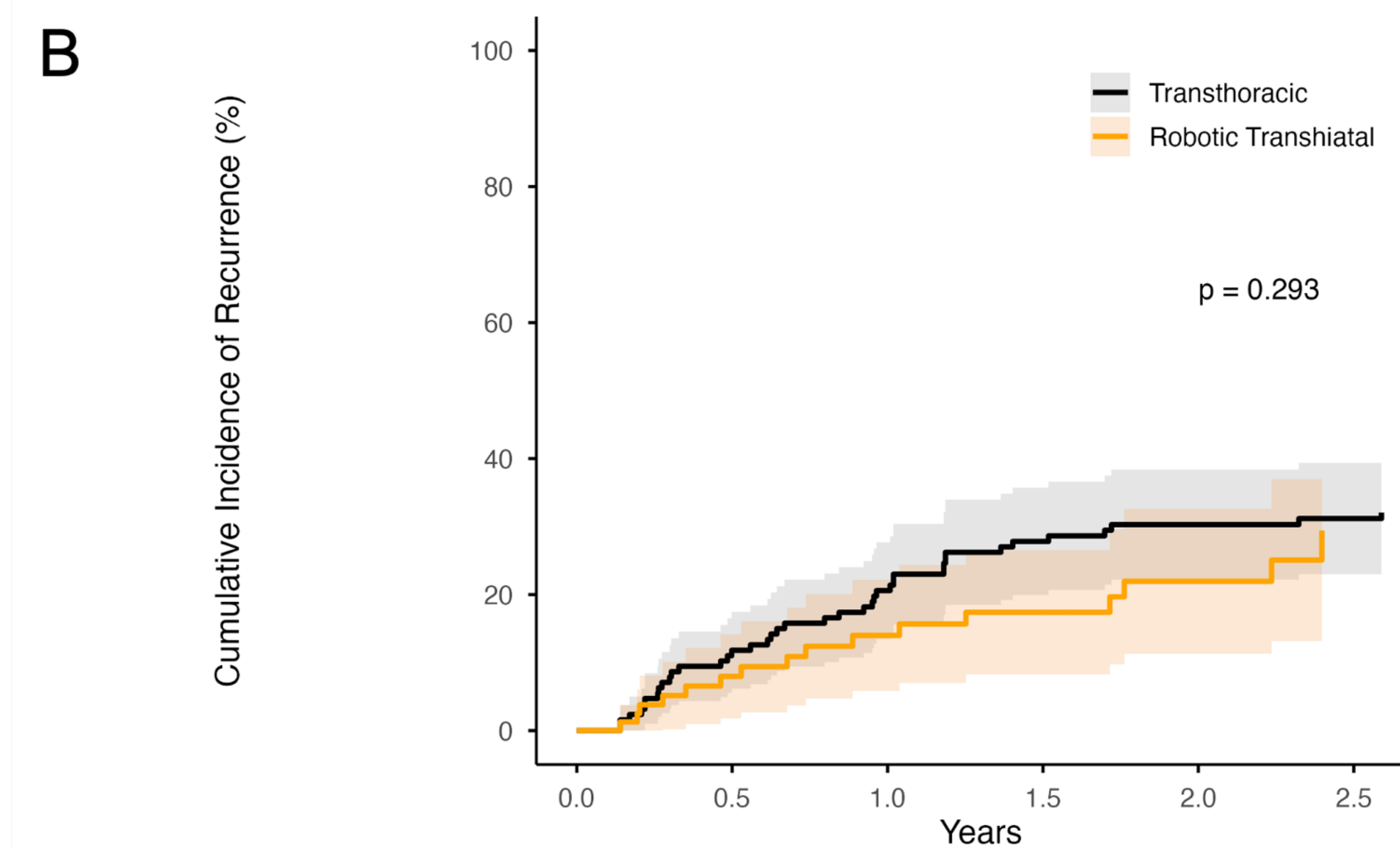
	RTHE	TTE
Time to oral feed*	1d	7d
J-tube placement*	17.7%	89.8%
ICU use*	67.1%	94.5%
Hospital LOS*	4d	9d
Discharge to home*	98.7%	85.8%

* p<0.05



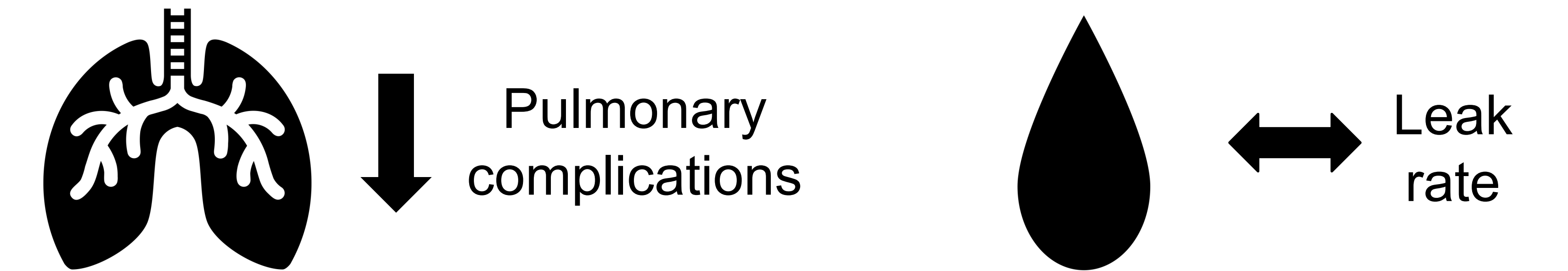
Number at risk

Transthoracic	127	112	99	94	78	74
Robotic Transhiatal	79	65	53	43	31	17



Number at risk

Transthoracic	127	101	85	74	63	61
Robotic Transhiatal	79	62	49	38	27	14



Results

- Patient demographics, oncologic staging, and lymph node harvest were comparable
- **No difference in all-cause 30-day readmission rates**
- RTHE had more laryngeal nerve paresis (10.1% vs 2.4%; p=0.024) but **comparable anastomotic leak rate** (7.6% vs 17.3%; p=0.060) and **less acute respiratory distress syndrome** (0% vs 8.7%, p=0.008)
- RTHE was independently associated with **shorter median LOS** [-6 days (-6.85 to -5.00, 95% CI), p<0.001]
- Across chronological tertiles, **LOS decreased to 3 days** and **ICU admission decreased to 14.8%** (p<0.001)
- Adjusted overall survival and recurrence-free survival were comparable

Conclusions

In appropriately selected patients (Stage I-IVA esophageal cancer), a recovery-focused **robotic transhiatal esophagectomy** pathway enabled earlier oral intake, reduced ICU utilization, and **hospital discharge as early as 3 days** without compromise in oncologic adequacy or survival.

Recovery outcomes improved across tertiles with **institutional experience** and refinement of our perioperative care pathway.

Next steps:

Prospective studies to hone patient selection and assess generalizability

Limitations:

Retrospective, single-institution study