



Survivorship After Surgical Resection for Esophageal Cancer: The Need for Continued Surgical Follow-up

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Disclosures

We have no disclosures.

Introduction

- **While the prognosis for esophageal cancer remains poor, long-term survival rates have increased in recent decades**
- **Few studies have explored the late-effects of treatment well beyond the perioperative period**
- **Comprehensive survivorship care plans can help improve survival and overall patient outcomes**

Purpose

- **To evaluate the impact of a set of commonly experienced health issues on long-term esophageal cancer survivors.**
- **Clinical variables studied:**
 - **Dysphagia**
 - **Gastric dumping syndrome**
 - **Gastric outlet obstruction**
 - **Bile reflux**
 - **Second primary cancer**
 - **Incisional hernia**

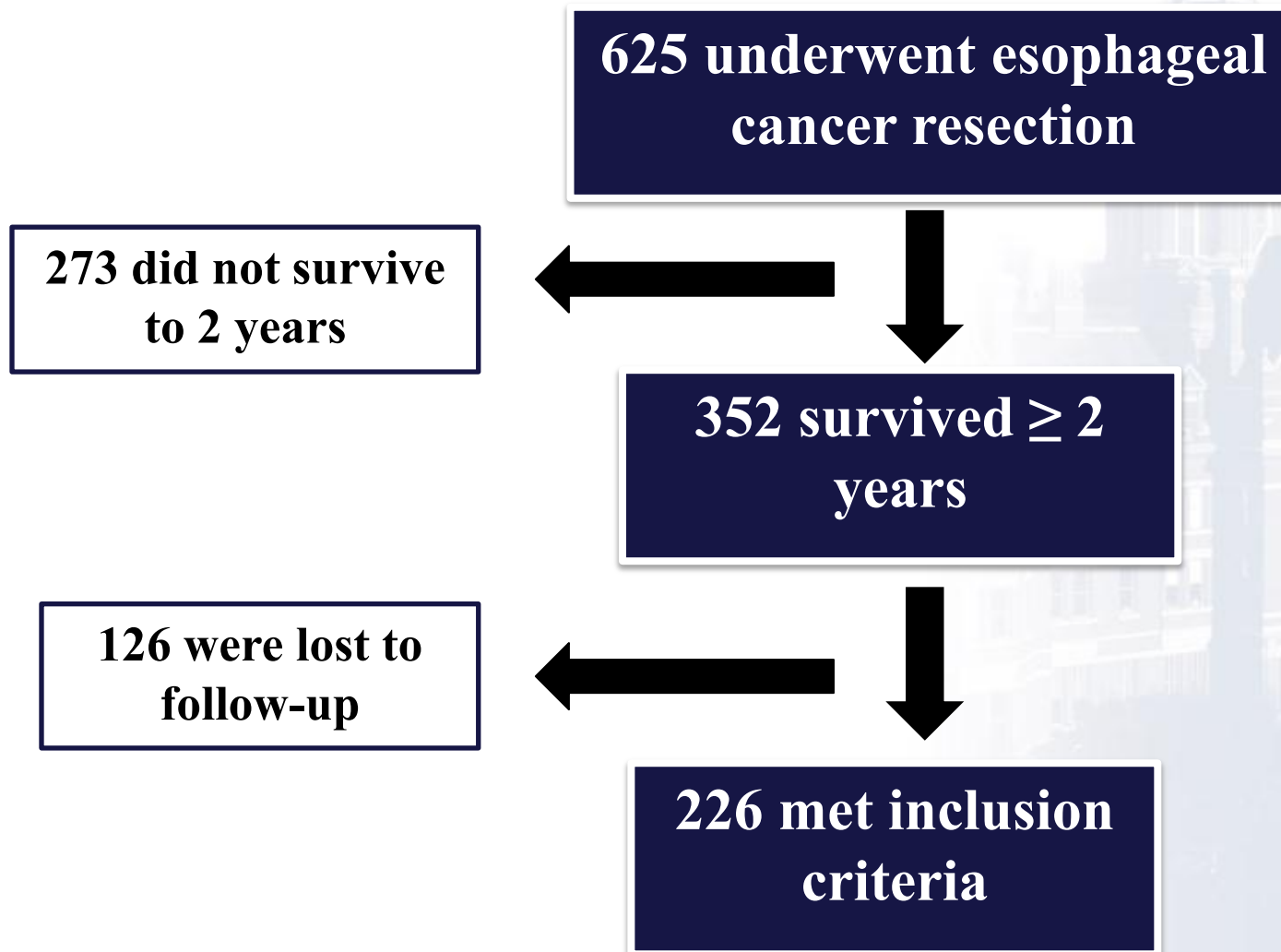
Methods

- **Design**: Retrospective review of prospectively kept esophageal cancer database and medical records
- **Participants**: Esophageal cancer patients at The Johns Hopkins Hospital (1995-2012) surviving ≥ 2 years after surgical resection with complete outpatient follow-up

Methods, cont.

- **Data Collection**: Data collected on patient demographics, clinical findings, and tumor characteristics
- **Statistical Analysis**: Cox proportional hazards, Kaplan-Meier Survival analysis, Unpaired t-test, Fisher's exact test, χ^2 test

Results: Study Cohort



Results: Population Characteristics

Variable	Value
Age Range (Mean)	37-96 (62)
Male n(%)	188 (83.2%)
<i>Stage at diagnosis</i> n(%)	
0	43 (19%)
1	24 (10.6%)
2	23 (10.2%)
3	22 (9.7%)
4	7 (3.1%)
Unknown	107 (47.4%)

Results, cont.

Distribution of clinicopathologic variables across length of survival

Variable	2-5 year survivors (n=109)		≥5 year survivors (n=117)		p value
	Value		Value		
Dysphagia	32	(29.4)	32	(27.4)	0.738
Gastric Dumping Syndrome	10	(9.2)	21	(18.0)	0.055
Gastric Outlet Obstruction	10	(9.2)	14	(12.0)	0.496
Bile Reflux	11	(10.4)	15	(13.4)	0.492
Second Primary Cancer	7	(6.4)	19	(16.4)	0.020
Incisional Hernia	14	(12.8)	10	(8.6)	0.295

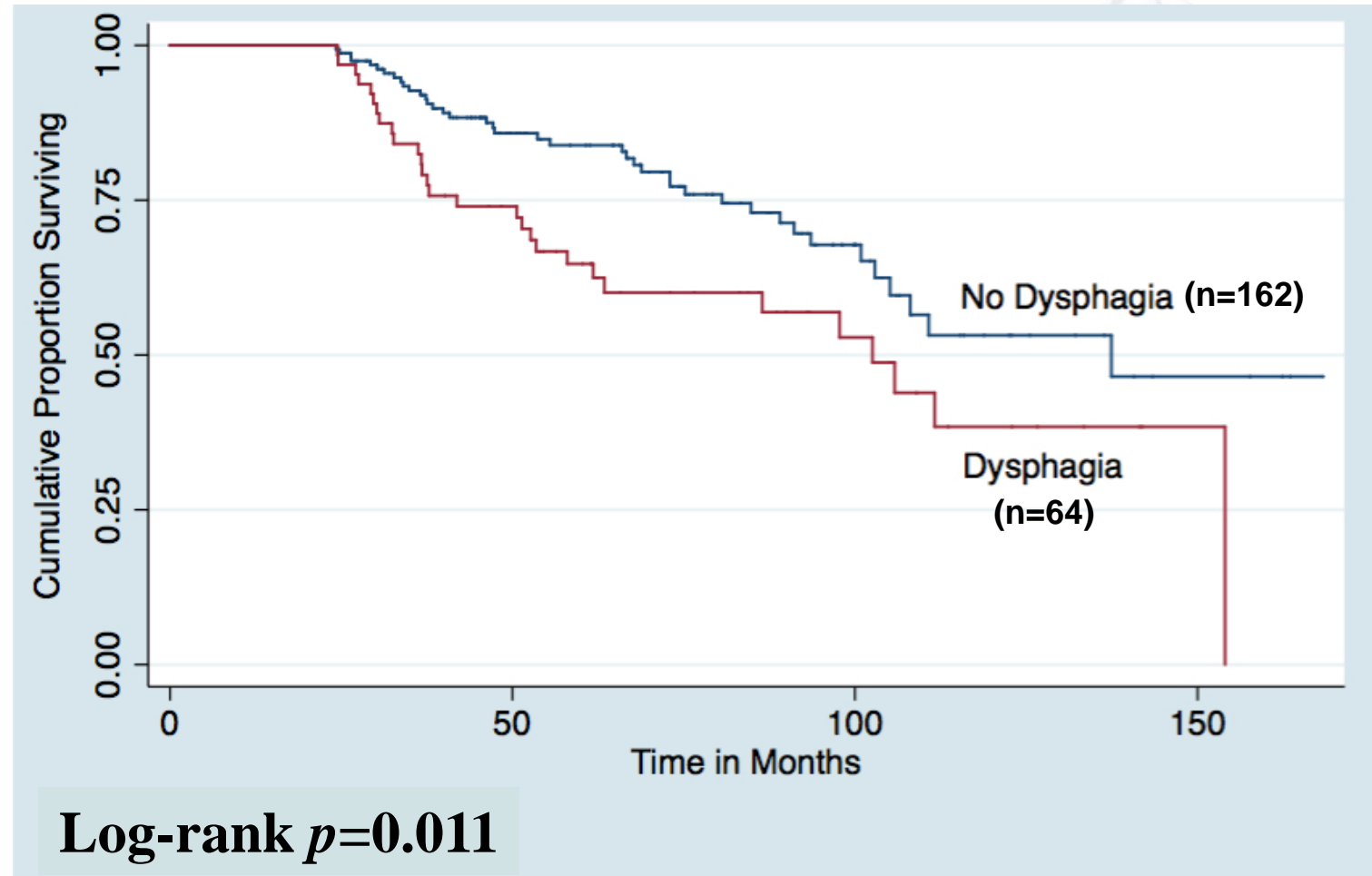
Data presented as numbers, with percentages in parentheses.

Results: Cox Proportional Hazards Analysis

Variable	Univariate		Multivariate	
	HR	P value	HR	P value
Dysphagia	1.850	0.012	1.92	0.017
Gastric Outlet Obstruction	0.852	0.69	-	-
Gastric Dumping Syndrome	0.919	0.79	-	-
Bile Reflux	0.543	0.19	-	-
Second Primary Cancer	0.841	0.63	-	-
Incisional Hernia	0.545	0.24	-	-
Age				
≤60 y	1.198	0.67	0.986	0.98
60-70 y	1.292	0.54	1.529	0.33
>70 y	2.388	0.036	4.187	0.002
Chemotherapy	1.790	0.021	2.114	0.011
Total Esophagectomy	4.208	<0.001	2.471	0.010
Histology Carcinoma <i>in situ</i>	0.296	0.002	0.300	0.004
Local Recurrence	2.372	0.002	4.864	<0.001
Distant Recurrence	4.875	<0.001	5.739	<0.001

HR, Hazard Ratio; CI, Confidence Interval

Results: Kaplan-Meier Overall Survival, With versus Without Dysphagia



Results, cont.

- **Variables associated with dysphagia:**
 - **Chemotherapy (p=.008)**
 - **Radiation (p=.002)**
 - **Current tobacco use (p=.039)**
 - **Grade \geq III Cancer (p=.007)**
 - **Stage \geq III Cancer (p=.003)**
 - **Lower third esophageal malignancy (p=.004)**

Study Limitations

- **Retrospective, single institution analysis**
- **Potential biases in chart abstraction**
- **Variability in the patient population**
- **Limited available information about cancer stage and grade**

Summary

- **Esophageal cancer survivors >5 years after resection compared to 2-5 year survivors:**
 - **3x prevalence of second primary cancer**
 - **2x prevalence of gastric dumping syndrome**
- **Dysphagia is significantly associated with decreased survival**

Future Work

- **Explore the association between dysphagia and decreased survival in this cohort**
- **Further characterize unique health and quality of life issues of long-term esophageal cancer survivors**

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Thank you!



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