



Primary Testicular Lymphoma: Oncologic Outcomes and Treatment Patterns

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INTRODUCTION

- Primary Testicular Lymphoma (PTL) is the most common testicular cancer in older men and little documentation of this important disease is available in the urologic literature.¹
- Since PTL is not represented in Germ Cell Tumor (GCT) databases, epidemiology can only be ascertained by examination of Lymphoma databases.
- As the US population ages, this disease presents more commonly to urologists

OBJECTIVE

- To evaluate the epidemiology and treatment patterns of PTL and compare the survival outcomes of PTL and GCT

MATERIALS & METHODS

- Study Design: Retrospective analysis of the National Cancer Database (NCDB) Testis and Lymphoma Registry
- Study Period: 2004-2013
- Patient Population: 47,174 patients with testis cancer (including 45078 GCT and 2096 PTL)
- Key Outcomes:
 - Demographic information (DI), such as age, stage and comorbidities, and treatment options (TO) were obtained
- Statistical Analysis:
 - Kaplan-Meier (KM) survival plots were used to examine Overall Survival (OS) at 5 & 8 years post diagnosis.
 - Classical Cox proportional hazards models assessed the effect of DI on OS in PTL.

RESULTS

Figure 1. Inclusion Criteria and Sample Size

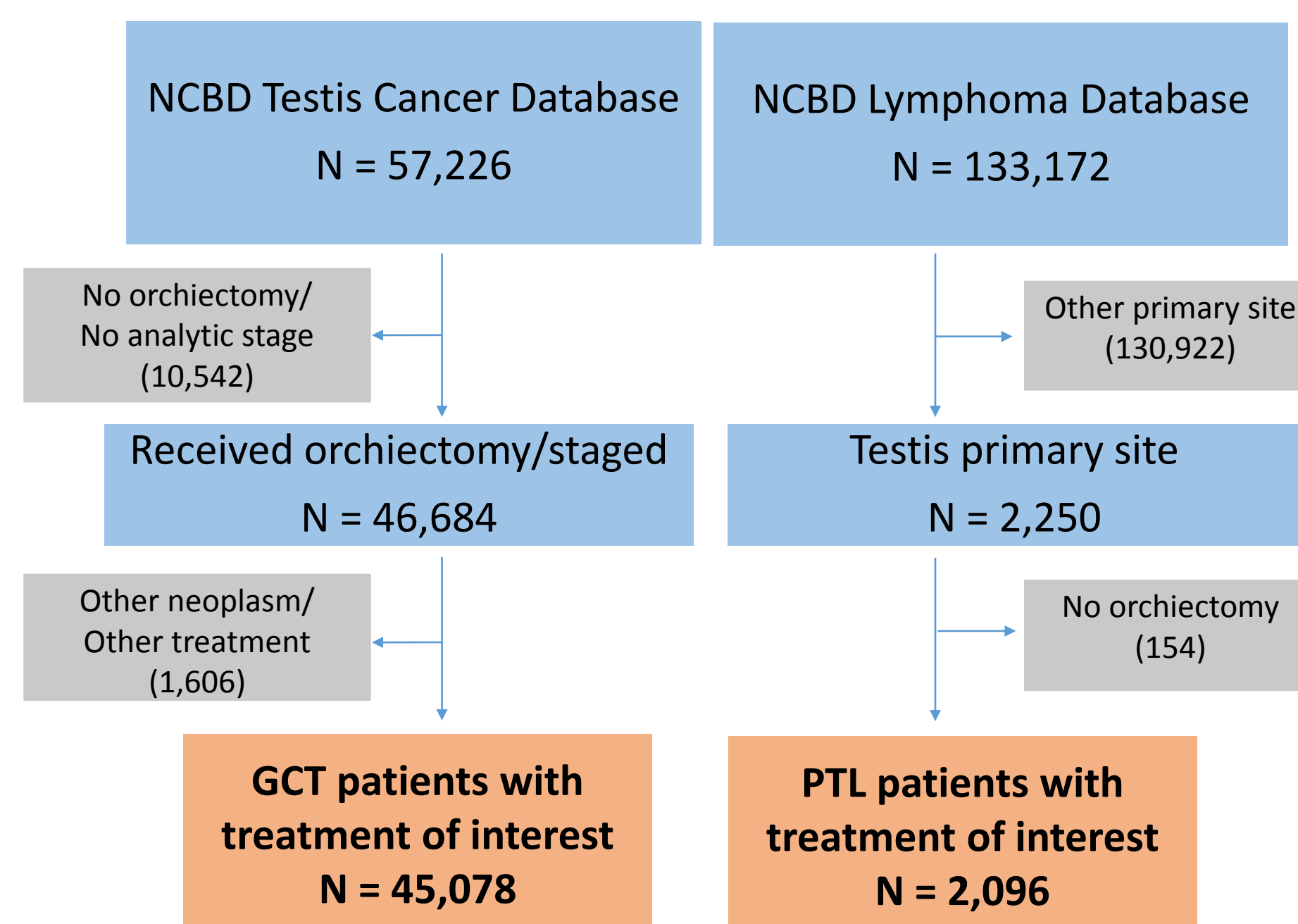


Table 1. Demographics of GCT and PTL

PTL		GCT	
2,096 (4%)		45,078 (95%)	
Stage	N (%)	Stage	N (%)
1	1081 (52)	1	33837 (75)
2	305 (15)	2	5969 (13)
3	128 (6)	3	5272 (12)
4	381 (18)	Unknown	< 10
Unknown	201 (10)		
CCI	N (%)	CCI	N (%)
0	1660 (79)	0	42569 (94)
1	353 (17)	1	2226 (5)
≥2	83 (4)	≥2	283 (1)

Figure 2. Distribution of Testicular Cancer by Age

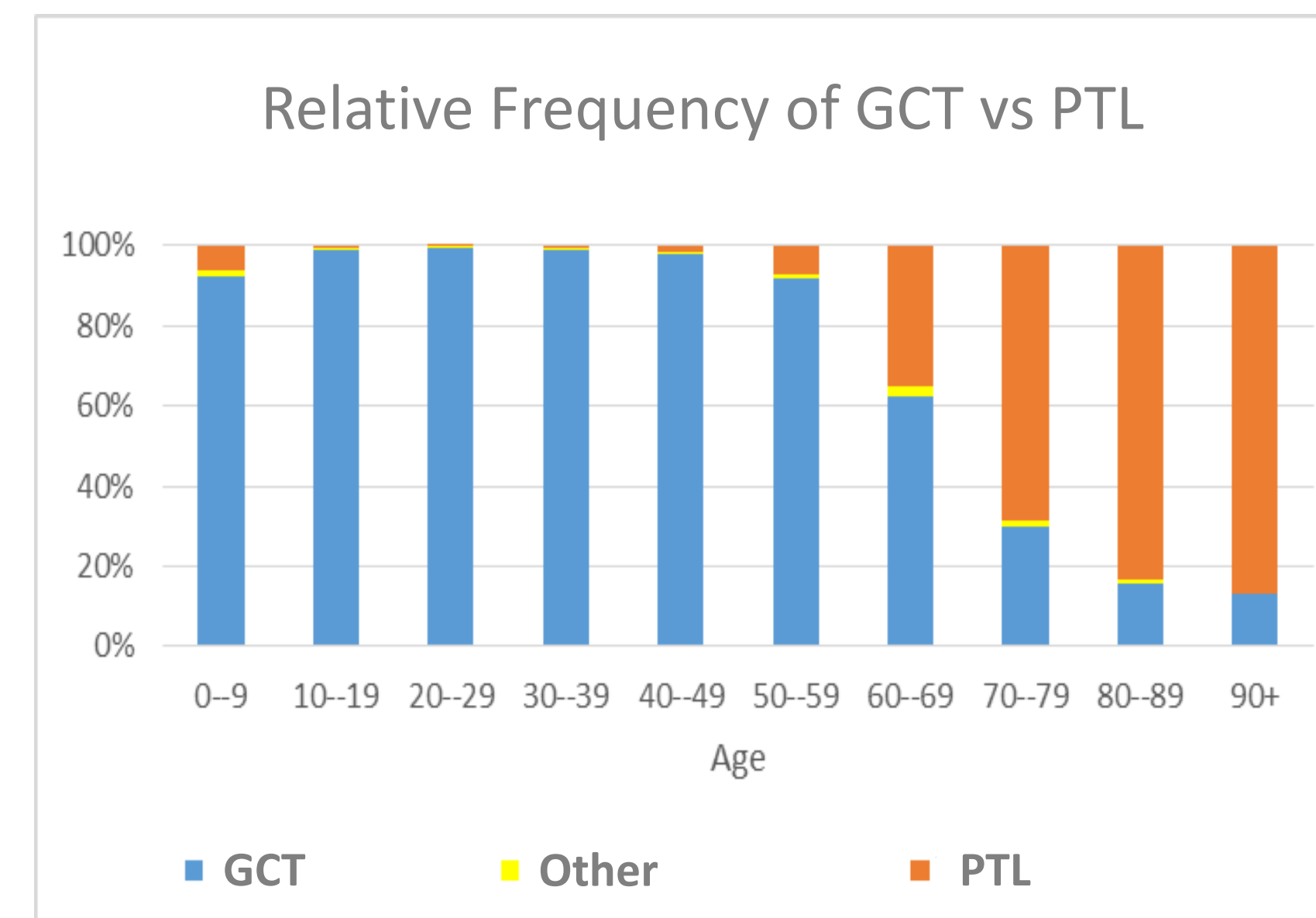


Table 2. Treatment of PTL vs GCT

Primary Treatment	PTL N (%)	GCT N (%)
Orch only	471 (22)	16955 (38)
Orch + Chemo	825 (39)	11942 (26)
Orch + Radiation	68 (4)	10865 (24)
Orch + Chemo + Radiation	732 (35)	NA
Orch + RPLND	NA	5316 (12)

Table 3. Cox proportional hazards model for PTL

Variable	5-year OS			8-year OS		
	HR	95% CI	p	HR	95% CI	p
Age						
0-29	1.00	NA	NA	1.00	NA	NA
30-59	0.74	[0.33, 1.67]	0.47	0.96	[0.42, 2.23]	0.94
≥60	1.64	[0.74, 3.63]	0.20	1.94	[0.85, 4.44]	0.10
Race						
CA	1.00	NA	NA	1.00	NA	NA
AA	0.89	[0.51, 1.57]	0.69	0.84	[0.48, 1.48]	0.54
Other	0.82	[0.51, 1.34]	0.42	0.71	[0.42, 1.21]	0.20
CCI						
0	1.00	NA	NA	1.00	NA	NA
1	1.29	[1.04, 1.61]	0.017	1.32	[1.07, 1.62]	0.007
≥2	2.17	[1.51, 3.11]	< 0.001	2.08	[1.44, 3.00]	< 0.001

Figure 3.

PTL 8-yr OS: 61%

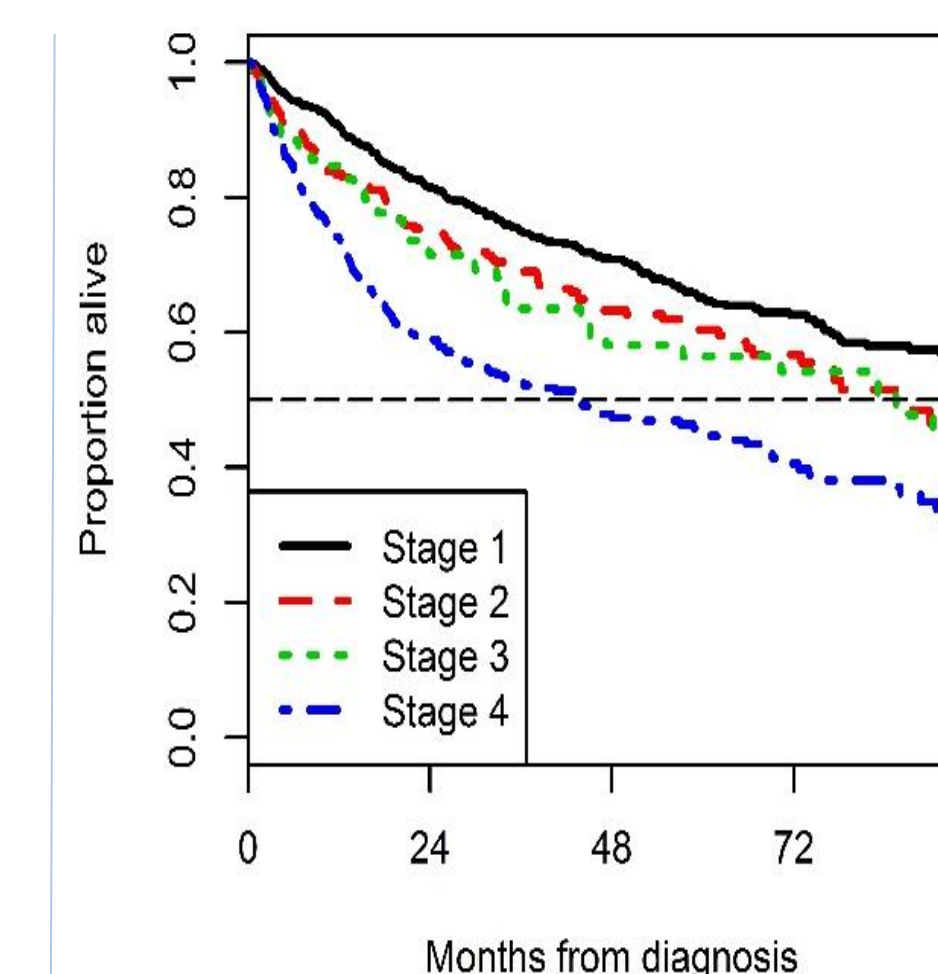
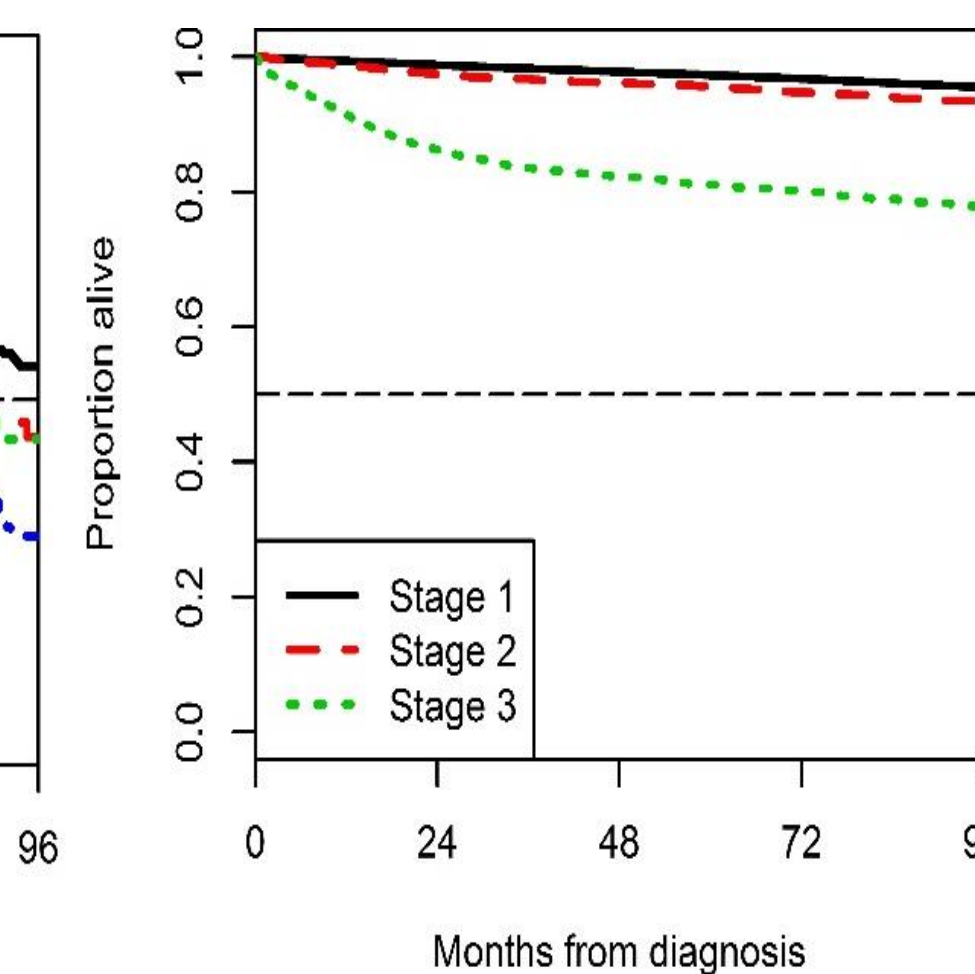


Figure 4.

GCT: 8-yr OS: 96%



CONCLUSION

- NCDB data includes >70% of newly diagnosed US malignancies, allowing us to analyze the largest cohort for PTL to date.
- PTL becomes more prevalent ≥66 yrs.
- Higher CCI adversely impacted OS.
- Further, we have shown that only 1 in 3 PTL patients received appropriate treatment with Chemo + Radiation following orchiectomy, a significant underutilization of National Comprehensive Cancer Network²

REFERENCES

- 1- Cheah CY, Wirth A, Seymour JF: *Primary testicular lymphoma*. Blood. 2014;123:486-493.
- 2- National Comprehensive Cancer Network. Clinical Practice Guidelines in Oncology. Diffuse Large B-Cell Lymphoma. Version 3.2018.