



Introduction

- Choroid Plexus Papillomas (CPP) and Choroid Plexus Carcinomas (CPC) are rare tumors that primarily manifest as a highly vascularized mass in children.
- CPP/CPC represent 5% of brain tumors in the first 5 years of life and 0.2% of all brain tumors.(1,2)
- Little is known about the epidemiology, survival and prognostic factors of these tumors in adults.
- We performed a comprehensive epidemiological analysis of CPPs and CPCs using the Surveillance, Epidemiology and End Results (SEER) database.
- We queried patients from 1973-2014, representing cancer incidence in 28% of the U.S population. Thus, this is the largest epidemiological study on CPPs and CPCs in adults.

Methods

- We queried the SEER database for all cases of CPP (International Classification of Disease [ICD] code: 9390/0) and CPC (ICD code: 9390/3) in patients aged 20 and above during the years 1973-2014.
- Patient demographic data, surgical procedures and survival data was obtained and analyzed.
- Race was binarized as white versus other.
- Outcomes were assessed using univariate models, Kaplan-Meier survival curves, log-rank test, and Cox proportional-hazard regression

Table 1

Characteristic	CPP	CPC	p-value
N (%)	216 (84.4%)	40 (15.6%)	
Age at diagnosis			0.782
Mean	46.7	47.5	
Range	22-87	22-87	
Sex			0.594
Male	79	17	
Female	137	23	
Race			1.00
White	178	33	
Other	38	7	
Tumor Location			0.218
Lateral/3 rd Ventricle	173	29	
4 th Ventricle	37	8	
Other	6	3	
Surgery Performed			0.015
Gross Total Resection	102	14	
Sub Total Resection	60	7	
None/NA	54	19	

Study Population Characteristics

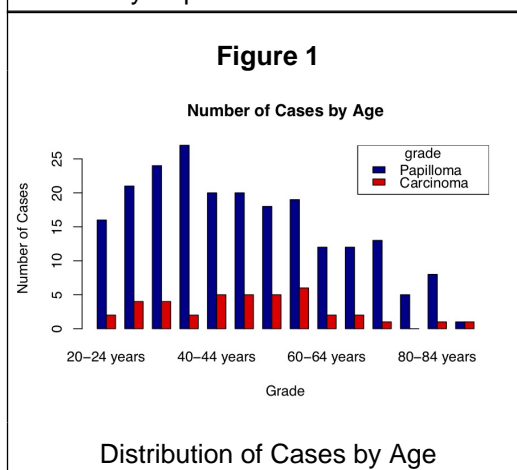
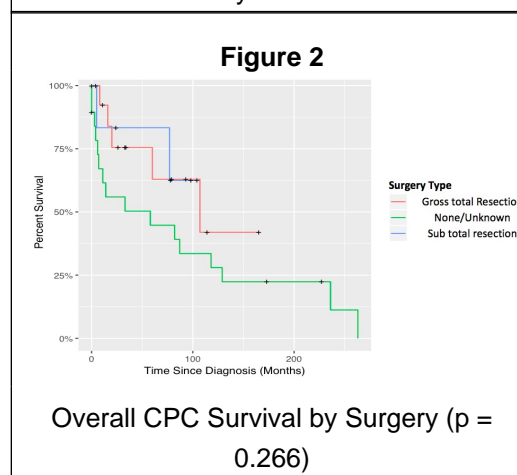


Table 2

	Overall CPP Survival			Overall CPC Survival		
	p value	Hazard Ratio	95% CI	p value	Hazard Ratio	95% CI
Median Age	<0.001	1.06	1.03-1.09	0.101	1.03	0.994-1.07
Sex						
Male	0.003	3.05	1.43-6.49	0.021	3.10	1.18-8.13
Female		Ref			Ref	
Race						
White	0.251	0.615	0.268-1.41	0.775	1.29	0.224-7.44
Other		Ref			Ref	
Tumor Location						
Lateral/3 rd Ventricle		Ref			Ref	
4 th Ventricle	0.471	0.636	0.186-2.18	0.207	0.451	0.131-1.56
Other	0.550	1.620	0.333-7.88	0.979	1.02	0.182-5.76
Surgery Performed						
Gross Total Resection		Ref			Ref	
Sub Total Resection	0.448	0.648	0.211-1.99	0.740	0.742	0.128-4.31
None/NA	0.907	0.935	0.306-2.86	0.227	2.180	0.615-7.73

Multivariate Analysis of Overall Survival



Results

Patient Demographics and Characteristics:

- 216 CPP and 40 CPC cases identified.
- Proportions of males with CPP and CPC were 36.6% and 42.5%, respectively (p=0.594).
- Age of diagnosis, race, sex and tumor location were not correlated with the incidence of CPP versus CPC.

Prognosis:

- Male had worse prognosis in both CPP and CPC.
- Cause specific mortality was 0% and 40% for CPP and CPC respectively.
- Overall mortality in the CPC cohort was higher than the CPP cohort (Odds Ratio [OR] 8.39, 95% Confidence Interval [CI] 3.76-18.71, p<0.001).
- On multivariate analysis gross total resection did not have a better outcome than sub total resection

Conclusions

While adult CPCs and CPPs have a higher incidence in women, both confer a worse prognosis in males. Extent of resection does not correlate with survival. Further studies perhaps elucidating the genetic cause of these tumors could help clarify disparities observed.

References

Cannon DM, Mohindra P, Gondi V, Kruser TJ,