

Pathological and prognostic characterization of Craniopharyngioma based on the expression of TrkA, β -catenin, cell cycle markers and BRAF V600E mutation

Supporting Information

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Running title: TrkA, β -catenin, and BRAF V600E mutation in craniopharyngioma

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Table S1

Table S1. The clinical characteristics of each enrolled craniopharyngioma patient.

Case No.	Histological type	Gender, Age (years)	Tumor location	Tumor size (cm)	Tumor shape	Tumor Consistency	Calcification		Adhesion strength	Surgical details		Additional treatment	Follow-up (months)	Recurrence	Recurrence time (months)
							Present	Degree		Procedure type	Extent of resection				
1	ACP	F, 26	S/SS-secondary 3V	3.0	Pear-like	Mixed	No	/	Tight	Open (endoscope assisted)	GTR	10	No	/	
2	ACP	M, 57	S/SS-secondary 3V	5.0	Elliptical	Mixed	No	/	Tight	Open	GTR	48	No	/	
3	ACP	M, 68	Strictly 3V	3.1	Multilobulated	Solid	Present	Punctate	Tight	Open	GTR	36	No	/	
4	ACP	F, 4	S/SS-secondary 3V	4.0	Elliptical	Cystic	Present	Eggshell	Tight	Purely endoscopic	GTR	30	No	/	
5	ACP	F, 7	S/SS-pseudo 3V	5.3	Elliptical	Mixed	Present	Eggshell	Invasion	Open	GTR	6	No	/	
6	ACP	F, 37	Strictly 3V	3.5	Elliptical	Cystic	Present	Punctate	Tight	Purely endoscopic	STR/PTR	24	No	/	
7	ACP	M, 47	Infundibulo-tuberal	2.7	Dumbbell	Mixed	Present	Eggshell	Invasion	Purely endoscopic	STR/PTR	12	No	/	
8	ACP	M, 14	Infundibulo-tuberal	4.0	Multilobulated	Mixed	Present	Eggshell	Invasion	Purely endoscopic	GTR	30	No	/	
9	ACP	M, 5	S/SS-pseudo 3V	7.6	Multilobulated	Mixed	Present	Big, popcorn	Tight	Open	GTR	9	No	/	
10	ACP	M, 11	Infundibulo-tuberal	3.0	Elliptical	Mixed	Present	Eggshell	Tight	Open	GTR	12	No	/	
11	ACP	M, 15	Infundibulo-tuberal	3.5	Elliptical	Mixed	Present	Punctate	Tight	Open (endoscope assisted)	GTR	3	No	/	
12	ACP	M, 38	Infundibulo-tuberal	3.4	Pear-like	Mixed	Present	Punctate	Tight	Open	GTR	12	No	/	
13	ACP	M, 21	S/SS-secondary 3V	5.0	Elliptical	Mixed	Present	Big, popcorn	Invasion	Open (endoscope assisted)	GTR	24	No	/	
14	ACP	M, 18	S/SS-pseudo 3V	3.8	Elliptical	Mixed	Present	Patchy	Invasion	Open	GTR	12	No	/	
15	ACP	F, 14	Infundibulo-tuberal	2.0	Round	Mixed	Present	Big, popcorn	Tight	Open	GTR	48	No	/	
16	ACP	F, 51	S/SS-secondary 3V	4.0	Elliptical	Mixed	Present	Punctate	Tight	Open	GTR	18	No	/	
17	ACP	F, 56	S/SS-pseudo 3V	3.4	Multilobulated	Mixed	Present	Punctate	Invasion	Open (endoscope assisted)	STR/PTR	36	Yes	6	
18	ACP	M, 51	Infundibulo-tuberal	2.6	Round	Mixed	Present	Eggshell	Tight	Open	GTR	24	No	/	
19	ACP	F, 55	S/SS-secondary 3V	2.4	Elliptical	Solid	Present	Eggshell	Tight	Open	GTR	30	No	/	
20	ACP	F, 58	S/SS	1.0	Elliptical	Mixed	Present	Punctate	Tight	Open	GTR	24	No	/	
21	ACP	F, 55	Infundibulo-tuberal	1.9	Multilobulated	Mixed	Present	Eggshell	Tight	Open	GTR	48	No	/	
22	ACP	F, 60	S/SS-pseudo 3V	4.0	Multilobulated	Mixed	Present	Big, popcorn	Invasion	Open	GTR	21	No	/	
23	ACP	M, 55	S/SS-secondary 3V	2.0	Round	Solid	Present	Punctate	Loose	Open	GTR	20	No	/	
24	ACP	F, 48	Infundibulo-tuberal	2.5	Round	Cystic	Present	Patchy	Invasion	Open (endoscope assisted)	STR/PTR	30	No	/	
25	ACP	F, 62	S/SS	2.2	Elliptical	Mixed	Present	Punctate	Tight	Open	GTR	35	No	/	
26	ACP	M, 45	Strictly 3V	3.7	Pear-like	Mixed	Present	Punctate	Tight	Open	GTR	24	No	/	
27	ACP	M, 23	Infundibulo-tuberal	3.8	Elliptical	Mixed	Present	Big, popcorn	Tight	Open	GTR	29	No	/	
28	ACP	F, 21	Infundibulo-tuberal	2.1	Elliptical	Mixed	Present	Punctate	Tight	Open (endoscope assisted)	NTR	36	No	/	
29	ACP	M, 53	Infundibulo-tuberal	3.2	Elliptical	Mixed	Present	Eggshell	Tight	Open	GTR	24	No	/	
30	ACP	M, 8	S/SS-pseudo 3V	6.4	Elliptical	Mixed	Present	Eggshell	Invasion	Open	STR/PTR	36	Yes	30	
31	ACP	M, 32	Infundibulo-tuberal	3.2	Elliptical	Mixed	Present	Punctate	Tight	Open	GTR	24	No	/	
32	ACP	M, 24	S/SS	2.7	Elliptical	Mixed	Present	Eggshell	Tight	Purely endoscopic	GTR	28	No	/	
33	ACP	F, 10	S/SS-secondary 3V	3.8	Pear-like	Mixed	No	/	Tight	Open	GTR	30	No	/	
34	ACP	F, 14	Infundibulo-tuberal	3.9	Round	Cystic	Present	Patchy	Tight	Purely endoscopic	STR/PTR	30	No	/	
35	ACP	F, 11	Strictly 3V	4.5	Elliptical	Mixed	Present	Punctate	Tight	Open	GTR	36	No	/	
36	ACP	M, 17	Infundibulo-tuberal	4.3	Round	Mixed	Present	Big, popcorn	Tight	Open	GTR	36	No	/	
37	ACP	M, 45	Infundibulo-tuberal	4.7	Elliptical	Mixed	Present	Punctate	Tight	Open	GTR	30	No	/	

38	ACP	M, 12	Infundibulo-tuberal	3.7	Elliptical	Cystic	Present	Punctate	Invasion	Open	GTR	24	No	/
39	ACP	M, 14	Infundibulo-tuberal	4.3	Round	Cystic	Present	Patchy	Invasion	Purely endoscopic	NTR	17	yes	5
40	ACP	M, 24	Infundibulo-tuberal	3	Elliptical	Mixed	Present	Eggshell	Invasion	Purely endoscopic	STR/PTR	48	yes	42
41	ACP	F, 75	S/SS-secondary 3V	4.5	Round	Mixed	Present	Punctate	Tight	Open (endoscope assisted)	NTR	11	yes	5
													STR (5months after the first operation)	
													RT (7months after the secondary operation)	
42	ACP	M, 33	Infundibulo-tuberal	4	Elliptical	Mixed	Present	Patchy	Invasion	Open	GTR	24	yes	24
43	Mixed-CP	F, 7	Infundibulo-tuberal	2.8	Elliptical	Mixed	Present	Big, popcorn	Invasion	Open	STR/PTR	12	yes	7
44	ACP	M, 23	S/SS	2.5	Dumbbell	Mixed	Present	Patchy	Invasion	Purely endoscopic	STR/PTR	30	yes	24
45	ACP	F, 36	Infundibulo-tuberal	2.9	Elliptical	Mixed	Present	Patchy	Invasion	Open (endoscope assisted)	GTR	12	yes	6
46	ACP	M, 36	Infundibulo-tuberal	7.3	Pear-like	Mixed	Present	Punctate	Tight	Open	STR/PTR	60	yes	60
47	ACP	F, 35	S/SS	2.7	Elliptical	Mixed	Present	Eggshell	Invasion	Open (endoscope assisted)	STR/PTR	24	yes	6
48	PCP	M, 60	S/SS-secondary 3V	3.0	Elliptical	Mixed	Present	Patchy	Invasion	Open	STR/PTR	45	Yes	42
49	PCP	M, 34	Infundibulo-tuberal	2.6	Elliptical	Cystic	No	/	Tight	Purely endoscopic	GTR	6	No	/
50	PCP	M, 31	S/SS	2.5	Round	Cystic	No	/	Tight	Open	GTR	12	No	/
51	PCP	F, 31	Infundibulo-tuberal	3.8	Elliptical	Cystic	No	/	Tight	Open	GTR	12	No	/
52	PCP	F, 10	Strictly 3V	4.0	Multilobulated	Cystic	No	/	Loose	Open	GTR	30	No	/
53	PCP	F, 51	S/SS-secondary 3V	3.0	Round	Cystic	No	/	Tight	Open	GTR	24	No	/
54	PCP	M, 50	S/SS-secondary 3V	2.5	Elliptical	Cystic	No	/	Tight	Open	GTR	26	No	/
55	PCP	M, 57	S/SS-pseudo 3V	4.0	Pear-like	Cystic	No	/	Tight	Open	GTR	18	No	/
56	PCP	M, 48	S/SS-pseudo 3V	2.9	Round	Cystic	No	/	Tight	Open	GTR	30	No	/
57	PCP	M, 68	Strictly 3V	3.0	Round	Solid	Present	Big, popcorn	Invasion	Open	GTR	24	No	/
58	PCP	M, 28	S/SS-secondary 3V	7.0	Elliptical	Cystic	No	/	Invasion	Open	STR/PTR	36	Yes	24
59	PCP	M, 25	Infundibulo-tuberal	5.3	Round	Cystic	No	/	Invasion	Purely endoscopic	STR/PTR	24	Yes	6
60	PCP	M, 50	Strictly 3V	3.7	Elliptical	Cystic	No	/	Tight	Open	STR/PTR	12	Yes	2
61	PCP	M, 64	S/SS-pseudo 3V	4.8	Round	Cystic	No	/	Fusion	Purely endoscopic	NTR	15	Yes	9

S/SS: sellar-suprasellar; 3V: the third ventricle; Mixed: mixed solid-cystic; GTR: gross total resection, NTR: near-total resection, STR/PTR: subtotal resection/partial resection; RT: radiotherapy; pre OMMAY CI: Pre-OMMAY Capsule Implantation.

Table S2**Table S2.** The correlation between ki-67 L.I. with ACP and PCP recurrence.

Histologic type	N=16 No. (%)	Ki-67 L.I.		X ²	P
		0-4 No. (%)	≥5 No. (%)		
ACP	11(69)	3(27)	8(73)	0.097	0.453
PCP	5(31)	1(20)	4(80)		

L.I.: labeling index.

Table S3**Table S3.** The relationship between Ki-67 expression and recurrence with the degree to CP adhesion and tumor resection.

Variables	N=59 No. (%)	Adhesion strength		X ²	P value	Extent of tumor resection		X ²	P value
		Loose+Tight No. (%)	Invasion+Fusion No. (%)			GTR No. (%)	Non GTR No. (%)		
Ki-67 L.I.				3.276	0.103			5.217	0.027
0-4	25(42)	19(76)	6(24)			21(84)	4(16)		
≥5	34(58)	18(53)	16(47)			19(56)	15(44)		
Recurrence									
Yes	16(27)	3(8)	13(59)	18.14	<0.001	2(5)	14(74)	30.74 6	<0.001
No	43(73)	34(92)	9(41)			38(95)	5(26)		

GTR: gross total resection; L.I.:labeling index.