

Supplementary Table (1): Relationship between *IDH* mutation and IHC staining for MLH1/MSH2 and MSH6 IHC staining

IHC staining for IDH1/MLH1/MSH2	N	Negative MSH6 (N=3)		Positive MSH6 (N=57)		Test	P
		No.	%	No.	%		
<u>IDH1 mutation</u>							
Wild	31	1	3.2%	30	96.8%	0.425 ^a	0.606
Mutant	29	2	6.9%	27	93.1%		
<u>MLH1 IHC</u>							
Negative	1	0	0%	1	100%	0.054 ^a	1.000
Positive	59	3	5.1%	56	94.9%		
<u>MSH2 IHC</u>							
Negative	2	2	100%	0	0%	39.31 ^a	0.002*
Positive	58	1	1.7%	57	98.3%		

Categorical variables were expressed as number (percentage); ^a: Chi-square test, P<0.05 is significant

Supplementary Table (2): Relationship between each of *IDH1* mutation and MLH1 IHC, and outcome

Outcome	N (%)	<i>IDH1</i> mutation			MLH1 IHC		
		Wild <i>IDH1</i> (N=31)	Mutant <i>IDH1</i> (N=29)	P	Negative MLH1 (N=31)	Positive MLH1 (N=29)	P
		N (%)	N (%)		N (%)	N (%)	
<u>Progression</u>							
Absent	24 (40%)	1 (3.2%)	23 (79.3%)	<0.001**	1 (3.2%)	23 (79.3%)	<0.001***
Present	36 (60%)	30 (96.8%)	6 (20.7%)		30 (96.8%)	6 (20.7%)	
<u>Progression Free Survival</u>							
Mean (months)	20.80 months	(PFS) 13.30 months	29.56 months	<0.001**	(PFS) 13.30 months	29.56 months	<0.001 ^{d**}
(95%CI)	(17.81 – 23.79)	(11.40 – 15.20)	(25.63 – 33.49)		(11.40 – 15.20)	(25.63 – 33.49)	
Median (months)	19 months	11 months	NR		11 months	NR	
(95%CI)	(16.35 – 21.64)	(7.59 – 14.40)			(7.59 – 14.40)		
6-months PFS	93.3%	100%	93.1%		100%	93.1%	
12-months PFS	65%	45.2%	86.2%		45.2%	86.2%	
18-months PFS	52.3%	28.2%	79%		28.2%	79%	
24-months PFS	34.7%	0%	79%		0%	79%	
30-months PFS	34.7%	0%	79%		0%	79%	

Categorical variables were expressed as number (percentage); 95%CI: 95% Confidence Interval; ^a: Chi-square test; ^d: Log-rank test; P<0.05 is significant.

Supplementary Table (3): Relationship between MSH6 IHC and MSH2 IHC and outcome

Outcome	N (%)	MSH6 IHC		P	MSH2 IHC		P
		Negative MSH6 (N=3)	Positive MSH6 (N=57)		Negative MSH2 (N=2)	Positive MSH2 (N=58)	
		N (%)	N (%)		No %	No %	
<u>Progression</u>							
Absent	24 (40%)	0 (0%)	24 (42.1%)	0.268 ^a	0 (0%)	24 41.4%	0.512 ^a
Present	36 (60%)	3 (100%)	33 (57.9%)		2 (100%)	34 58.6%	
<u>Progression Free Survival</u>							
Mean (months) (95%CI)	20.80 months (17.81– 23.79)	(PFS) 6 months (3.01 – 8.99)	21.58 months (18.57 – 24.59)	<0.001 ^{d**}	(PFS) 5.50 months (0.60 – 10.40)	21.33 months (18.33 – 24.33)	<0.001 ^{d**}
Median (months) (95%CI)	19 months (16.35– 21.64)	7 months (0.59 – 13.40)	19 months (17.16 – 20.83)		3 months	19 months (16.56 – 21.43)	
6-months PFS	93.3%	66.7%	94.7%		50%	94.8%	
12-months PFS	65%	0%	68.4%		0%	67.2%	
18-months PFS	52.3%	0%	55.1%		0%	54.1%	
24-months PFS	34.7%	0%	37.6%		0%	36.9%	
30-months PFS	34.7%	0%	37.6%		0%	36.9%	

Categorical variables were expressed as number (percentage); 95%CI: 95% Confidence Interval; ^a: Chi-square test; ^d: Log-rank test; P<0.05 is significant

Supplementary Table (4): Relationship between *IDH1* mutation and MLH1 expression and patient management.

	<i>IDH1</i> mutation			MLH1 expression		
	Negative <i>IDH1</i> (N=31)	Positive <i>IDH1</i> (N=29)	P	Negative MLH1 (N=1)	Positive MLH1 (N=59)	P
Patient management	N (%)	N (%)		N (%)	N (%)	
<u>Extent of surgical resection</u>						
Partial	6 (19.4%)	6 (20.7%)	0.602 ^a	0 (0%)	12 (20.3%)	0.780 ^a
Subtotal	11 (35.5%)	7 (24.1%)		0 (0%)	18 (30.5%)	
Gross total	14 (45.2%)	15 (51.7%)		1 (100%)	28 (47.5%)	
Near total	0 (0%)	1 (3.4%)		0 (0%)	1 (1.7%)	
<u>Size of residual tumor</u>						
0 cm	4 (12.9%)	7 (24.1%)	0.411 ^a	1 (100%)	10 (16.9%)	0.210 ^a
<3 cm	19 (61.3%)	13 (44.8%)		0 (0%)	32 (54.2%)	
3-5 cm	8 (25.8%)	8 (27.6%)		0 (0%)	16 (27.1%)	
>5 cm	0 (0%)	1 (3.4%)		0 (0%)	1 (1.7%)	
<u>Radiotherapy</u>						
No	2 (6.5%)	6 (20.7%)	0.140 ^a	0 (0%)	8 (13.6%)	1.000 ^a
Yes	29 (93.5%)	23 (79.3%)		1 (100%)	51 (86.4%)	
<u>Concurrent chemotherapy</u>						
No	13 (41.9%)	11 (37.9%)	0.752 ^a	0 (0%)	24 (40.7%)	1.000 ^a
Yes	18 (58.1%)	18 (62.1%)		1 (100%)	35 (59.3%)	

Supplementary Table (5): Relationship between MSH6 and MSH2 expressions and patient management

	MSH6 expression			MSH2 expression		
	Negative MSH6 (N=3)	Positive MSH6 (N=57)	P	Negative MSH2 (N=2)	Positive MSH2 (N=58)	P
	N (%)	N (%)		N (%)	N (%)	
Patient management						
Extent of surgical resection						
Partial	1 (33.3%)	11 (19.3%)	0.682 ^a	1 (50%)	11 (19%)	0.662 ^a
Subtotal	0 (0%)	18 (31.6%)		0 (0%)	18 (31%)	
Gross total	2 (66.7%)	27 (47.4%)		1 (50%)	28 (48.3%)	
Near total	0 (0%)	1 (1.8%)		0 (0%)	1 (1.7%)	
Size of residual tumor						
0 cm	0 (0%)	11 (19.3%)	0.430 ^a	0 (0%)	11 (19%)	0.840 ^a
<3 cm	1 (33.3%)	31 (54.4%)		1 (50%)	31 (53.4%)	
3-5 cm	2 (66.7%)	14 (24.6%)		1 (50%)	15 (25.9%)	
>5 cm	0 (0%)	1 (1.8%)		0 (0%)	1 (1.7%)	
Radiotherapy						
No	0 (0%)	8 (14%)	1.000 ^a	0 (0%)	8 (13.8%)	1.000 ^a
Yes	3 (100%)	49 (86%)		2 (100%)	50 (86.2%)	
Concurrent chemotherapy						
No	0 (0%)	24 (42.1%)	0.268 ^a	0 (0%)	24 (41.4%)	0.512 ^a
Yes	3 (100%)	33 (57.9%)		2 (100%)	34 (58.6%)	