

SUPPLEMENTAL DATA

Molecular classification and fertility-sparing outcomes in endometrial cancer and atypical endometrial hyperplasia

**Jiayi Wang^{1,3}, Guozhong Jiang², Shuping Yan², Yanpeng Tian^{1,3}, Yuxi Jin^{1,3}, Hanlin Fu^{1,3},
Lulu Si^{1,3}, Mingbo Cai^{1,3}, Xueyan Liu^{1,3}, and Ruixia Guo^{1,3*}**

¹Department of Obstetrics and Gynecology, The First Affiliated Hospital of Zhengzhou University, Zhengzhou, China;

²Department of Pathology, The First Affiliated Hospital of Zhengzhou University, Zhengzhou, China;

³Medical Key Laboratory for Prevention and Treatment of Malignant Gynecological Tumor, China.

***Correspondence to** Ruixia Guo: grxcdxzzy@163.com

Full article text is available at the following link: [Molecular classification and fertility-sparing outcomes in endometrial cancer and atypical endometrial hyperplasia | Biomolecules and Biomedicine](#)

Table S1. Oncologic outcomes across molecular classification in subgroups treated with <12 months.

Variables	Total (n=69)	<i>POLE-ultramutated</i> (n=3)	MMR deficient (n=17)	p53 abnormal (n=4)	p53 wild-type (n=45)	<i>p</i> value
Overall CR rate (CR%)	63(91.3%)	3(100%)	15(88.2%)	4(100%)	41(91.1%)	0.827
CR% at 6 months	61(88.4%)	3(100%)	15(88.2%)	4(100%)	39(86.7%)	1.000
CR% at 9 months	63(91.3%)	3(100%)	15(88.2%)	4(100%)	41(91.1%)	0.827
Time interval to CR (IQR, months)	3.0 (3.0-5.0)	3.0	3.0 (3.0-4.0)	3.0 (3.0-3.75)	3.0 (3.0-5.0)	0.889
Recurrence rate after CR	19(30.2%)	2(66.7%)	5(29.4%)	3(75.0%)	9(20.0%)	0.057
Time interval to recurrence (IQR, months)	20.0 (10.0-44.0)	29.0 (14.0-44.0)	21.0 (20.0-30.0)	54.0 (28.0-51.50)	16.0 (10.0-20.0)	0.729
Hysterectomy after treatment failure	10(14.5%)	2(66.7%)	3(17.6%)	2(50.0%)	3(6.7%)	0.007*

Note: CR, complete response, IQR, interquartile range; MMR, mismatch repair. * $p < 0.05$

Table S2. Oncologic outcomes across molecular classification in subgroups treated with ≥ 12 months.

Variables	Total (n=34)	MMR deficient (n=9)	p53 abnormal (n=3)	p53 wild-type (n=22)	<i>p</i> value
Overall CR rate (CR%)	31(91.2%)	8(88.9%)	3(100%)	20(90.9%)	1.000
CR% at 6 months	4(11.8%)	1(11.1%)	0(0%)	4(18.1%)	1.000
CR% at 9 months	15(44.1%)	3(33.3%)	0(0%)	12(54.5%)	0.203
Time interval to CR (IQR, months)	9.0 (7.0-13.0)	12.5 (7.5-14.0)	20.0 (16.0-20.0)	8.0 (7.0-11.0)	0.079
Recurrence rate after CR	7(20.6%)	2(22.2%)	2(66.7%)	3(13.6%)	0.156
Time interval to recurrence (IQR, months)	66.0 (40.0-81.0)	46.5 (12.0-81.0)	95.5 (66.0-125.0)	59.0. (49.5-63.0)	0.691
Hysterectomy after treatment failure	6(17.6%)	2(22.2%)	2(66.7%)	2(9.1%)	0.051

Note: CR, complete response, IQR, interquartile range; MMR, mismatch repair. * $p < 0.05$

Table S3. Comparison according to recurrence (n=94).

Variables	Non-recurrence n (%)	Recurrence n (%)	$t/z/\chi^2$	p value
NO. of patients	68	26		
Age(years)	31.56±4.63	31.77±4.20	-0.202	0.840
BMI(kg/m ²)	27.14±3.90	28.03±3.77	-0.998	0.321
Metabolic Syndrome			0.869	0.351
NO	51(75.0%)	17(65.4%)		
YSE	17(25.0%)	9(34.6%)		
PCOS	11(16.2%)	4(15.4%)	0.000	1.000
Diagnosis			0.178	0.810
AEH	45(66.2%)	16(61.5%)		
EEC	23(33.8%)	10(38.5%)		
Molecular classification			-	0.010*
<i>POLE-ultramutated</i>	1(1.5%)	2(7.7%)		
MMR deficient	16(23.5%)	7(30.4%)		
p53 abnormal	2(2.9%)	5(19.2%)		
p53 wild-type	49(72.1%)	12(46.5%)		
Treatment regimen			-	0.917
MA/MPA	40(58.8%)	14(53.8%)		
MA/MPA+ LNG-IUS	26(38.2%)	11(42.3%)		
Others	2(2.9%)	1(3.8%)		
Family history of cancer	6(8.8%)	2(7.7%)	0.000	1.000
Maintenance of treatment	15(22.1%)	4(15.4%)	0.520	0.471
Re-pregnancy	15 (22.1%)	6(23.1%)	0.010	0.916
CA125(IQR, U/mL)	14.435 (10.473-18.278)	14.060 (11.575-21.683)	-0.737	0.461
Treatment duration				0.440
≤12months	44(64.7%)	19(73.1%)		
>12months	24(35.3%)	7(22.6%)		

Note: BMI, body mass index; PCOS, polycystic ovary syndrome; AEH, atypical endometrial hyperplasia; EEC, endometrioid endometrial cancer; MA, megestrol acetate; MPA, medroxyprogesterone acetate; LNG-IUS, levonorgestrel intrauterine device; CA125: cancer antigen 125; IQR, interquartile range. * $p < 0.05$

Table S4. Baseline and clinical characteristics across molecular classification with who desire to conceive after CR.

Variables	Total n (%)	<i>POLE</i> - ultramutated n (%)	MMR deficient n (%)	p53 abnormal n (%)	p53 wild-type n (%)	<i>p</i> value
NO. of patients	49	2	16	5	26	-
Age(years)	30.45±4.67	36.00±1.41	30.94±4.99	28.20±3.27	30.15±4.64	0.238
BMI(kg/m ²)	27.59±4.36	26.53±1.15	25.41±4.14	30.44±2.53	27.10±4.81	0.470
Metabolic Syndrome						0.541
NO	39(79.6%)	2(100.0%)	14(87.5%)	3(60.0%)	20(76.9%)	
YES	10(20.4%)	0(0%)	2(12.5%)	2(40.0%)	6(23.1%)	
Parity						0.270
None	38(77.6%)	1(50.0%)	12(75.0%)	3(60.0%)	22(84.6%)	
Once or more	11(22.4%)	1(50.0%)	4(25.0%)	2(40.0%)	4(15.4%)	
PCOS	9(18.4%)	0(0%)	4(25.0%)	2(40.0%)	3(11.5%)	0.285
Diagnosis						0.577
AEH	32(65.3%)	1(50.0%)	12(75.0%)	4(80.0%)	15(57.7%)	
EEC	17(34.7%)	1(50.0%)	4(25.0%)	1(20.0%)	11(42.3%)	
Treatment regimen						0.808
MA/MPA	30(61.2%)	2(100%)	8(50.0%)	4(80.0%)	16(61.5%)	
MA/MPA+LNG-IUS	17(34.7%)	0(0%)	7(43.8%)	1(20.0%)	9(34.6%)	
Others	2(4.1%)	0(0%)	1(6.3%)	0(0%)	1(3.8%)	
Family history of cancer	5(10.2%)	1(50.0%)	2(12.5%)	0(0%)	2(7.7%)	0.361
CA125(IQR, U/mL)	14.38 (11.10-19.20)	18.28 (11.56-25.00)	15.09 (9.80-18.18)	13.23 (13.10-13.80)	13.39 (10.60-18.36)	0.910
Adenomyosis/endometriosis	2(4.1%)	0(0%)	1(6.3%)	0(0%)	1(3.8%)	1.000

Note: BMI, body mass index; PCOS, polycystic ovary syndrome; AEH, atypical endometrial hyperplasia; EEC, endometrioid endometrial cancer; MA, megestrol acetate; MPA, medroxyprogesterone acetate; LNG-IUS, levonorgestrel intrauterine device; CA125, cancer antigen 125; IQR, interquartile range; MMR, mismatch repair.