

Abstract 198 Table 2 Diagnostic performance regarding detection of myometrial and cervical invasion

	TP	FP	FN	TN	Sensitivity %	Specificity %	Accuracy %	PPV*	NPV**
<b>FICO</b>									
I	34	2	18	14	65.4%	78.5%	70.5%	94.4%	
II	5	3	4	56	55.5%	94.9%	89.7%	62.5%	
III	3	3	4	58	42.8%	95.1%	89.7%	50%	93.5%
<b>Myometrial Invasion</b>									
No	1	18	0	50	100%	73.5%	75%	5.2%	100%
< 50%	19	8	19	22	50%	73.3%	60%	70.3%	53.6%
≥ 50%	20	2	9	37	68.9%	94.8%	83.8%	90.9%	80.4%
<b>Node involvement</b>									
No	59	3	3	3	95.1%	50%	91.1%	95.1%	50%
Yes	3	3	3	59	50%	95.1%	91.1%	50%	95.1%
<b>Cervical stromal involvement</b>									
No	53	5	1	9	98.1%	64.3%	91.1%	91.4%	90%
Yes	9	1	5	53	64.3%	98.1%	91.1%	90%	91.4%

\*Positive predictive value; \*\*Negative predictive value

pathologist. The results were compared with the final histopathology report of surgical staging.

#### Result(s)\*

**Results** Included were a total of 68 women with endometrioid adenocarcinoma of the uterus, most (76%) with stage I disease. Levels of serum HE4 greater than 140PM and CA125 greater than 35 ku/L were observed in 12 (17%) and 26 (38.2%) of patients respectively whose greater proportion were cases with deep myometrial invasion and high grade tumor. In the evaluation of deep tumoral invasion (> 50%) of the myometrium sensitivity, specificity, and diagnostic accuracy of MRI were 68.9%, 94.8% and 83.8% respectively. For lymph node involvement these values were 50%, 95.1% and 91.1% respectively and for cervical stromal involvement were 64.3%, 98.1% and 91.1% respectively.

**Conclusion\*** Higher stage, deep myometrial invasion, and lymph node or cervical stromal involvement increase diagnostic accuracy of MRI. Higher levels of HE4 and CA125 were observed in patients with deep myometrial invasion and higher grade of tumor.

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#### ENDOMETRIAL CARCINOMA MOLECULAR SUBTYPE CORRELATES WITH THE PRESENCE OF LYMPH NODE METASTASES

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**Introduction/Background\*** The role of lymph node (LN) assessment in endometrial cancer (EC) has been a subject of debate for decades, with significant variation in use between centres. Molecular classification of EC provides objective, prognostic information and be performed on diagnostic endometrial biopsy specimens. The Proactive Molecular Risk Classifier for Endometrial Cancer (ProMisE) uses targeted next-generation sequencing to detect pathogenic *POLE* exonuclease domain mutations (*POLEmut*) and immunohistochemistry to evaluate for the presence of mismatch repair deficiency (MMRd), *TP53* mutations (p53abn) or tumours with no specific molecular profile (NSMP/p53wt). Herein, we assessed the association between EC molecular subtype and LN metastases in a single institutional cohort with a uniform approach to LN assessment.

**Methodology** All ECs treated with primary surgery from a single institution in 2015 underwent ProMisE molecular subtyping and collection of clinicopathologic and outcomes data.

**Result(s)\*** Complete pelvic and para-aortic lymphadenectomies were performed in 171 of 172 consecutive cases of EC. The distribution of ProMisE subtypes and clinicopathologic features associated with molecular subtype are outlined in table 1. The p53abn subtype was observed across a range of EC histotypes, including low grade endometrioid endometrial carcinoma. LN metastases were found in 31/171 (18.1%) patients: pelvic only in 83.9% and pelvic plus para-aortic in 16.1%. LN metastases included macrometastases (19/31), micrometastases (5/31), and isolated tumour cells (ITCs) (7/31).

Molecular subtype was significantly associated with LN metastases ( $p=0.004$ ); there was a strong association between LN metastases and p53abn EC (nodal involvement in 44.8% of cases). LN metastases were observed in 14.2% of *POLEmut*, 14.9% of MMRd, and 10.8% of NSMP EC.

Abstract 223 Table 1 Summary of the clinicopathologic features by ProMisE molecular subtype

Variable	Total	POLEmut	MMRd	NSMP	p53abn
<b>Total</b>	172	21 (12.2%)	47 (27.3%)	74 (43.0%)	30 (17.4%)
<b>Age at diagnosis</b>					
<60 years	70 (40.7%)	12 (57.1%)	18 (38.3%)	38 (51.4%)	2 (6.6%)
≥60 years	102 (59.3%)	9 (42.9%)	29 (61.7%)	36 (48.6%)	28 (93.3%)
<b>Histotype</b>					
Endometrioid	137 (79.7%)	18 (85.7%)	45 (95.7%)	71 (95.9%)	3 (10.0%)
Non-endometrioid	35 (20.3%)	3 (14.3%)	2 (4.3%)	3 (4.1%)	27 (90.0%)
-Serous	15(8.7%)	0	1(2.1%)	0	14(46.7%)
-Clear cell	2(1.2%)	0	0	1(1.4%)	1(3.3%)
-Carcinosarcoma	8(4.7%)	0	0	0	8(26.7%)
-Mixed	10(5.8%)	3(14.3%)	1(2.1%)	2(2.7%)	4(13.3%)
<b>Tumour grade</b>					
low grade	129 (75%)	16 (76.2%)	41 (87.2%)	69 (93.2%)	2 (6.7%)
high grade	43 (25%)	5 (23.8%)	6 (12.8%)	5 (6.8%)	28 (93.3%)
<b>Tumour size</b>					
<2cm	31 (18.0%)	4 (19.0%)	12 (25.5%)	14 (18.9%)	1 (3.3%)
≥2cm	132 (76.8%)	17 (81.0%)	35 (74.5%)	53 (71.6%)	27 (90.0%)
unk	9 (5.2%)	0	0	7 (9.5%)	2 (6.7%)
<b>Myoinvasion</b>					
None	39 (22.7%)	5 (23.8%)	13 (27.7%)	16 (21.6%)	5 (16.7%)
<50%	82 (47.7%)	11 (52.4%)	19 (40.4%)	37 (50.0%)	15 (50%)
≥50%	51 (29.6%)	5 (23.8%)	15 (31.9%)	21 (28.4%)	10 (33.3%)
<b>FIGO stage</b>					
I-II	140 (81.4)	17 (81.0%)	43 (91.5%)	64 (86.5%)	15(50.0%)
III-IV	32 (18.6%)	4 (19.0%)	4 (8.5%)	10 (13.5%)	15 (50.0%)
<b>LVI</b>					
Negative	117 (68.0%)	15 (71.4%)	31(66.0%)	59 (79.7%)	12 (40.0%)
Positive	55 (32.0%)	6 (28.6%)	16 (34.0%)	15 (20.3%)	18 (60.0%)
<b>Pelvic and Para-aortic LND</b>					
Yes	171 (99.4%)	21 (100%)	47 (100%)	74 (100%)	29 (96.7%)
No	1 (0.6%)				1 (3.3%)
<b>Presence of LN metastases</b>					
	31 (18.1%)	3 (14.2%)	7 (14.9%)	8 (10.8%)	13 (44.8%)

LN, lymph node; LND, lymph node dissection; LVI, lymphovascular invasion; unk, unknown.

By multivariate analysis, molecular subtype and CA 125 >25 kU/L were significantly associated with LN metastases ( $p=0.021$  and  $p=0.022$  respectively) compared to histotype, which showed no significant association with LN status ( $p=0.24$ ).

**Conclusion\*** EC molecular subtype significantly associates with LN metastases and offers objective, reproducible, and prognostic information from diagnostic specimens. Pre-operative knowledge of molecular subtype can guide biologically-informed approaches to LN sampling, particularly for patients with high molecular risk (p53abn) EC.

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### THE ROLE OF PROGNOSTIC RISK FACTORS IN ENDOMETRIAL CANCER RECURRENCE: A RETROSPECTIVE STUDY

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**Introduction/Background\*** Histopathologic type, grading, myometrial invasion, lymphovascular space invasion (LVSI) and