of post-operative adjuvant therapy. Benefits of a laparoscopic approach are shorter hospitalisations, lower blood loss, faster postoperative recovery.

Methodology Safe, step by step method of total hysterectomy and bilateral salpingo-oophorectomy with pelvic and para-aortic lymph node dissection. Dissection and visualisation of anatomical landmarks as safest, most reliable method of performing laparoscopic surgery.

Result(s)* 54 year old woman with endometrial cancer G2 FIGO IB was qualified for laparoscopic surgery. Total hysterectomy and bilateral salpingo-oophorectomy with pelvic and para-aortic lymph node was performed. Patient was discharged from hospital after 3 days in good condition, with no significant blood loss or other complications. Final histopathology result: T1BNO M0, 68 lymph nodes from paraaortic and pelvic lymphadenectomy. LVSI negative

Conclusion* We are convinced that our approach to laparoscopic total hysterectomy with lymphadenectomy is safe and repetitive. By dissection and visualisation key anatomical landmarks we can avoid complications such as bleeding, damage to the ureters, nerves and vessels.

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MINI-INVASIVE (MIS) VS. OPEN SURGERY (OSU): PROGNOSTIC IMPACT OF THE SURGICAL APPROACH FOR ENDOMETRIAL CANCER. A FRANCOGYN COLLABORATIVE GROUP SURVEY

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10.1136/ijgc-2021-ESGO.134

Introduction/Background* Thanks to technical improvements, total non-conservative hysterectomy evolved towards MIS as the standard approach for early-stage endometrial cancer (EC). MIS has recently been called into question for cervical cancer treatment due to its negative prognosis impact. In this context, we carry out a study comparing OSu vs. MIS with Disease Free Survival (DFS) as primary endpoint.

Methodology Retrospective study, within the French collaborative group FRANCOGYN from 1999 to 2020. All patients aged over 18 who achieved hysterectomy for endometrial cancer were included whatever the pathological subtype. Secondary endpoints were: Overall Survival (OS) and sub-group analysis according to FIGO stage, ESMO-ESGO-ESTRO Consensus Conference risk-group 2015 (E3CC), pathological sub-

types, lymph node metastasis and lympho-vascular space invasion (LVSI). To assess primary endpoint, we use inverse probability of treatment weighting (IPW) based on propensity score to construct two weighted cohort.

A Cox proportional-hazard model standard multivariate analysis was used for subgroup analysis.

Result(s)* Nine hundred and forty-five (945) patients were included, 380 (40.2%) received OS and 565 (59.8%) received MIS. The median follow-up was 34.2 months (29.1 SD). The study other measured characteristics were strongly unbalanced in disfavor of the OSu group for pathological subtype ($p < 0.001$), FIGO stage ($p < 0.001$) and ESMO-ESGO-ESTRO risk group ($p < 0.001$). Hence, after propensity score matching, Cox proportional-hazards model displays a trend of worse DFS in the OSu group (HR = 0.72, 95% CI 0.52-1.00 $p = 0.054$) and significantly altered OS in the OSu vs. MIS group (HR = 0.52, 95% CI 0.35-0.78 $p = 0.0018$).

DFS was significantly impaired by the following characteristics: Age, BMI, histological grade 3 (HR=2.04, 95% CI [1.15-2.04] $p = 0.015$), E3CC High Risk Group (HR = 2.62, 95% CI [1.03-6.67] $p = 0.43$) and FIGO Stage 3 (HR= 2.21, 95% CI [1.07-4.56] $p = 0.031$)

Conclusion* This study cover 20 years of clinical practice and consolidate MIS place for EC surgical treatment with an increasing use of MIS over years whatever the FIGO staging and clinical characteristics.

Every effort should be made to improve a standardized MIS approach the more that patient is frail or at high risk of relapse.

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MOLECULAR CLASSIFICATION OF ENDOMETRIAL CARCINOMA SUBSTANTIALLY CHANGING RISK-ASSESSMENT: RESULTS FROM A EUROPEAN MULTICENTRE INITIATIVE

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10.1136/ijgc-2021-ESGO.135

Introduction/Background* Endometrial carcinoma patient care was based on histopathologic examination for many years. However, conventional pathologic features are known to suffer from high inter-observer variability and may be irreproducible in many cases. TCGA-derived molecular classification was shown to provide clinically meaningful data and was recently introduced to ESGO/ESTRO/ESP endometrial carcinoma consensus guidelines. It was the aim of this study to quantify

alterations in risk-assessment if molecular classification is added to conventional prognosticators.

Methodology Consecutive primary endometrial carcinoma patients diagnosed in 2016 were identified in participating centres. Original risk classification ('ORC16', ESGO/ESMO guidelines 2016) was compared to current molecular-based risk assessment ('MBR21', ESGO/ESMO guidelines 2021). Clinical and histopathological data were collected and tumor specimens were retrospectively submitted to PMS2, MSH6 and p53 immunohistochemistry and POLE mutation testing.

Result(s) 226 patients were identified across five major European gynecologic oncology centres. Complete molecular and clinical data were available from 198 cases with a median follow-up time of 52.1 months. Median age was 64.9 years (30.9-90.9), 165 cases (83.3%) were endometrioid histotype. Grade distribution included 85(42.9%) G1, 63(31.8%) G2, and 46(23.3%) G3 tumors. 98(49.5%) patients had stage IA disease, with the remaining stage IB (n=51;25.8%), stage II (n=16;8.0%), and stage III/IV (n=33;16.7%). Molecular classification yielded 43(21.7%) MMR-D, 18(9.1%) POLE, 43 (21.7%) p53abn, and 94(47.5%) p53wt tumors. If ORC16 was compared to MBR21, risk was found to be higher in 15 (7.6%) cases, whereas 27(13.6%) cases were assigned to a lower risk group. No survival events were observed in the 9 patients where risk was changed from high-intermediate or high to low-risk.

Conclusion* We were able to demonstrate clinically relevant alterations of endometrial carcinoma risk assessment in a significant number of patients after adding TCGA-derived molecular data to conventional risk classification. Potential molecular-guided changes in patient management may help to avoid over- and undertreatment and will ultimately give rise to precision medicine strategies in endometrial carcinoma patient care.

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DEVELOPING AND VALIDATING ULTRASOUND-BASED RADIOMICS MODELS FOR PREDICTING HIGH-RISK ENDOMETRIAL CANCER

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10.1136/ijgc-2021-ESGO.136

Introduction/Background* Transvaginal ultrasound examination is the first imaging investigation for endometrial cancer. Ultrasound-based models for predicting high risk endometrial cancer have recently been published. However, none of these models includes radiomics features. Radiomics is an innovative high throughput technique extracting and translating high numbers of features from medical images into mineable data.

Aim of this study was to develop and validate ultrasound-based radiomics models, aiming to differentiating high risk category, as defined by ESMO-ESGO-ESTRO in 2016, versus the remaining categories of risk.

Methodology This is a multicenter retrospective observational study. Patients with histologically confirmed diagnosis of endometrial cancer who had undergone preoperative ultrasound examination between 2016 and 2019 were identified from two centers. Patients recruited in Center 1 (Rome) were included as 'training set' (n=396), while patients enrolled in Center 2 (Milan), as 'external validation set' (n=102). Radiomics analysis was applied to the ultrasound images. Clinical

Abstract 387 Table 1 Logistic regression models for discriminating high risk group versus other three groups, and low risk group versus the other risk groups for validation set

Predictive Models	Optimal cut-off	AUC estimate (95% CI)	Sensitivity (%) (95% CI)	Specificity (%) (95% CI)	Accuracy (%) (95% CI)	PPV (%) (95% CI)	NPV (%) (95% CI)	LR+ (95% CI)	LR- (95% CI)	TP (n)	TN (n)	FN (n)	FP (n)	Total (n)
Radiomics model to predict low risk	0.38	0.71 (0.61 - 0.81)	65.0 (49.6 - 78.3)	64.5 (52.2 - 75.5)	64.7 (55.1 - 73.5)	54.2 (40.2 - 67.7)	74.1 (61.3 - 84.3)	1.83 (1.22 - 2.75)	0.54 (0.34 - 0.86)	26	40	14	22	102
Clinical-ultrasound model to predict low risk	0.46	0.85 (0.78 - 0.92)	70.0 (54.7 - 82.4)	80.6 (69.5 - 88.9)	76.4 (67.0 - 84.3)	70.0 (54.7 - 82.4)	80.6 (69.5 - 88.9)	3.62 (2.09 - 6.25)	0.37 (0.23 - 0.61)	28	50	12	12	102
Mixed model to predict low risk	0.36	0.85 (0.80 - 0.93)	87.5 (74.7 - 95.0)	72.5 (60.6 - 82.4)	78.4 (69.1 - 85.9)	67.3 (53.8 - 78.8)	90.0 (79.4 - 96.0)	3.19 (2.09 - 4.86)	0.17 (0.0 - 0.40)	35	45	5	17	102
Radiomics model to predict high risk	0.41	0.80 (0.70 - 0.88)	58.7 (44.3 - 72.0)	85.7 (74.8 - 93.0)	73.5 (64.4 - 81.3)	77.1 (61.5 - 88.6)	71.6 (60.1 - 81.4)	4.10 (2.12 - 7.96)	0.48 (0.33 - 0.71)	27	48	19	8	102
Clinical-ultrasound model to predict high risk	0.40	0.87 (0.81 - 0.94)	67.3 (53.1 - 79.5)	89.2 (78.5 - 95.0)	79.4 (70.2 - 86.7)	83.7 (68.8 - 92.3)	76.9 (65.3 - 85.4)	6.29 (2.88 - 14.0)	0.37 (0.24 - 0.56)	31	50	15	6	102
Mixed model to predict high risk	0.42	0.88 (0.81 - 0.93)	67.3 (52.9 - 79.1)	91.0 (80.7 - 96.1)	80.3 (71.3 - 87.5)	86.1 (71.3 - 93.9)	77.2 (65.8 - 85.7)	7.55 (3.19 - 18.0)	0.36 (0.23 - 0.55)	31	51	15	5	102

AUC, area under the receiver-operating characteristics curve; LR+, positive likelihood ratio; LR-, negative likelihood ratio; NPV, negative predictive value; PPV, positive predictive value; TN, true negatives; TP, true positives; FN, false negatives; FP, false positives. Radiomics model is a model generated from radiomics features. Clinical-ultrasound model is a model generated from clinical and ultrasound features. Mixed model is a model generated from clinical, ultrasound and radiomics features.