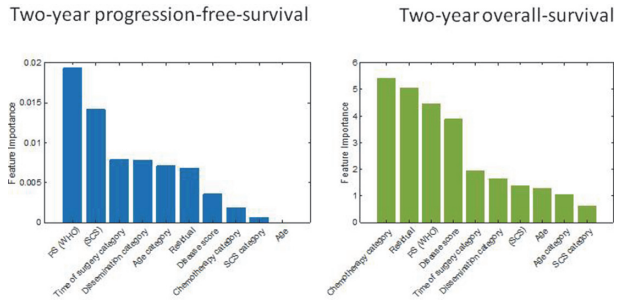

Abstract 282 Figure 1

prognosis estimation was formulated as a binary classification problem. Dataset was split into training (80%) and test (20%) cohorts with repeated random sampling until there was no significant difference (p=0.20) between the two cohorts. A ten-fold cross-validation was applied. Various state-of-the-art supervised ML classifiers were tested, including Support-Vector-Machines (SVMs), K-Nearest Neighbors (KNNs), Ensemble Classifiers, and Naïve Bayes, based on a set of performance metrics. These results were directly compared to conventional Logistic Regression (LR). For feature selection, multivariate feature ranking using the MRMR method was carried out.

Result(s)* Two hundred nine patients were identified. The model's mean prediction accuracy reached 73%. We demonstrated that SVM and Ensemble Discriminant algorithms outperformed Logistic Regression in accuracy indices. The probability of achieving a cancer-free state was maximized with a combination of primary cytoreduction, good performance status, and maximal surgical effort (AUC 0.63). Standard chemotherapy, performance status, tumor load, and residual disease were consistently predictive of the two-year overall survival (AUC 0.63-0.66) (figure 1). The model recall and precision were greater than 80%.

Conclusion* Appropriate feature selection is required when building a HGSOC model for two-year prognosis prediction. For HGSOC prognosis, one should consider not only the patient's disease burden but also their overall medical status and ability to undergo extensive surgery, resulting in survival benefits alongside with standard chemotherapy.

283 ANAPLASTIC MURAL NODULES WITHIN MUCINOUS OVARIAN CARCINOMA, A CASE SERIES ASSESSING TREATMENTS AND OUTCOMES

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Introduction/Background* Mucinous ovarian tumours account for ~10% of primary ovarian neoplasia and a generally diagnosed at an early stage with relatively favourable oncological outcomes. However those possessing anaplastic carcinoma within mural nodules rarer still and carry with them a poor prognosis and lack of consensus regarding their optimal treatment regime. Whilst a great deal of research has been published focusing on their histopathological and immunohistochemical characteristics, there is limited evidence nor consensus regarding their ideal adjuvant treatment regimes. This study sought to combine cases from our unit with a meta-analysis of cases in the literature to provide insight into current treatment regimes and outcomes.

Methodology A systematic review was conducted of the English language literature to identify articles published regarding outcomes and treatment modalities of patients having anaplastic carcinoma foci within mucinous ovarian tumours. References of these articles were reviewed to identify all possible cases in the literature. Where treatment regimes were not listed in the publications the contact author was reached for comment. These cases were then combined with 7 cases from our own institution for a multivariate and survival analysis.

Result(s)* A total of 66 cases were identified in the literature. Average age 43.7 (median 40.5), range 15-74yo. 83% of patients underwent a total abdominal hysterectomy, 17% of patients did not under go a hysterectomy, with the remaining 2 cases having been done laparoscopically. 70% of patients underwent a BSO, the remainder a USO. 50% of cases were FIGO stage IA1 at the time of diagnosis, of these 16% died during follow up with 3 of those dying within 12 months of diagnosis.

Conclusion* Anaplastic mural nodules arising on a background of mucinous ovarian carcinoma are associated with heterogenous outcomes when considering progression free survival and overall survival. Their treatment within the literature is highly variable, particularly regarding adjuvant therapy. Patients with improved overall survival and progression free survival were more likely to be lower stage and have a smaller adnexal mass at diagnosis.

287 CAN HE4 REPLACE CA 125 AS A BIOMARKER IN OVARIAN CANCER?

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Introduction/Background* Ovarian cancer is currently diagnosed using CAl25, which has a number of fallacies. Recently HE4 (human epididymis protein) is an emerging biomarker. It has higher potency to differentiate benign tumours from malignant one.

Methodology We studied 123 cases of ovarian cancer confirmed by histopathological examination. Whole blood samples were collected at the time of diagnosis prior to therapy (chemotherapy or surgery). We tested them for serum level of CA 125 & HE4. Cut off values for HE4 and CA125 were <57.6 pmol/L and <39.6 U/mL respectively. Cut off values were calculated by ROC Curve analysis.

Result(s)* Total 123 cases were evaluated for serum level of HE4 & CA125 prior to therapy. Results are being displayed in table 1.

Out of 123 cases 38 showed CA 125 values negative, whereas the same was 14 for HE4, indicating a better diagnostic performance by HE4. As studied by Drapkin et al 2005, serum level of HE4 will not be raised in 50% cases of clear-cell variant and almost all cases of mucinous tumors. It is positive in 93% cases of serous tumors and almost all cases of endometrioid tumors. It will not be raised in benign ovarian cysts.

Among premenopausal cases (42/123), 10 showed CA 125 negative where as HE4 was negative in 7/42 cases. Out of 10 CA 125 negative cases, 5 were HE4 positive. Out of HE4

Abstract 287 Table 1 Overian cancer cases (n=123) showing negativetive equivocal and positive result for CA 125 & HE4

CA 123			HE4		
Negative (N)	Equivocal (E)	Positive (P)	N	E	P
All ovarian cancer cases (pre + post menopausal; **n= 123**)					
38	18	67	14	63	45
Premenopausal cases (42/123)					
10	6	26	7	21	14
Postmenopausal cases (81/123)					
25	11	45	7	41	33

negative cases 2/7 showed CA 125 positive result. Mucinous and clear cell variants show HE4 negative result.

Among postmenopausal cases (81/123), 25 showed CA 125 negative where as HE4 was negative in 7/42 cases. 18/25 CA 125 negative cases showed positive HE4 results. None of HE4 negative case showed higher CA 125 value.

Conclusion* Study shows HE is more accurate in diagnosing OC & differentiating it from benign tumors. The study is continued to achieve a decisive conclusion.

291 FREQUENCY OF PATHOGENIC MUTATIONS AND PROGNOSTIC IMPACT OF GERMLINE GENE PANEL TESTING IN PATIENTS WITH PRIMARY EPITHELIAL OVARIAN CANCER

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Abstract 291 Table 1 Univariate and multivariate analysis of prognostic factors for overall survival (OS)

OS	Total	Events	Median OS	Univariate		Multivariate	
				HR (CI95%)	P	HR (CI95%)	P
n	569	140	55				
Type of surgery							
PDS	413(72.6)	93(22.5)	61	1(ref.)		1	
IDS	156(27.4)	47(30.1)	40	**2.09(1.45-3.00)**	**<0.001**	**2.79(1.86-4.19)**	**<0.001**
ECOG performance status							
0	543(95.4)	133(25.4)	55	1		1	
≥1	26(4.6)	7(26.9)	25	1.96(0.91-4.20)	0.084	1.35(0.59-3.12)	0.474
Albumin (g/L)							
≥35	470(82.6)	112(23.8)	55	1		1	
<35	46(8.1)	16(34.8)	44	1.68(0.99-2.84)	0.053	1.25(0.70-2.23)	0.449
unknown	53(9.3)	12(22.6)	71			**0.50(0.26-0.95)**	**0.035**
ACCI							
0-1	248(43.6)	59(23.8)	60	1		1	
2-3	248(43.6)	60(24.2)	55	1.18(0.83-1.70)	0.358	1.11(0.76-1.60)	0.589
≥4	73(12.8)	21(28.8)	36	**1.79(1.09.2-95)**	**0.022**	1.58(0.96-2.62)	0.074
Ascites (mL)							
≤500	431(75.7)	93(21.6)	62	1		1	
>500	138(24.3)	47(34.1)	43	**1.90(1.34-2.71)**	**<0.001**	**1.75(1.14-2.68)**	**0.010**
History of previous malignancy							
no cancer	492(86.5)	121(24.6)	55	1		1	
breast cancer	41(7.2)	8(19.5)	76	0.77(0.38-1.57)	0.474	0.74(0.34-1.62)	0.454
other type of cancer	36(6.3)	11(30.6)	39	1.49(0.80-2.76)	0.211	1.39(0.70-2.75)	0.340
Residual disease after surgery (mm)							
RD0	422(74.2)	80(19)	71	1		1	
RD≥1	147(25.8)	60(40.8)	36	**2.81(2.01-3.94)**	**<0.001**	**2.87(1.99-4.14)**	**<0.001**
FIGO							
FIGO III	261(45.9)	48(18.4)	76	1		1	
FIGO IV	308(54.1)	92(29.9)	47	**1.79(1.26-2.55)**	**0.001**	1.27(0.87-1.26)	0.217
Germline result							
No mutation	430(75.6)	115(26.7)	47	1		1	
BRCA1/2mut	108(19)	20(18.5)	-	**0.49(0.30-0.78)**	**0.003**	**0.49(0.31-0.80)**	**0.004**
Other mutation	31(5.4)	5(16.1)	71	**0.44(0.18-1.08)**	**0.074**	**0.34(0.14-0.85)**	**0.021**