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Mucinous Cystadenocarcinoma of Ovary: 10 Years Experience of a Tertiary Cancer Institute, ahpgic

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ABSTRACT: To calculate the incidence of mucinous cystadenocarcinoma of ovary in the institute and to analyze the preop, intraop and post op characteristics and analyzing the disease free survival disease free survival(dfs) and overall survival (OS)of the cases.It is a retrospective study done in the institute consisting of patients between 2009-2019. Eligibility criteria includes histopathologically and IHC diagnosed Primary mucinous cystadenocarcinoma of ovary. Secondary ovarian mucinous and borderline ovarian mucinous were excluded. Kaplan meyesrs survival methodand regression analysis was used. Both the regimen has similar chemo response rate.Median DFS for stage 1c3 was 52 months and that of advanced stage is 16 months. 4 years DFS was 85.14% for stage 1c3. As only 4 patients died and that too off stage IIIC hence OS for 1c cannot be calculated all the cases should have preoperative endoscopy colonoscopy mammography chest x ray and pap smear to look for other primaries. Both subacute intestinal obstruction and Surgical site infection were seen in 20% cases. The results of the regression analysis. Where, the dependent variable is Recurrence and independent Variables are age, tobacco, pathology, from the analysis we can see that p-values for all the independent Variables are more than 0.05. hence none of the independent factor are significantly associated with recurrence.

1. Introduction

Mucinous cystadenoma is a type of epithelial ovarian carcinoma. Previously it accounted for 12% of all ovarian carcinoma; however after pathological review the recent statistics suggest the amount to be around 3%[1]. 80-85% of mucinous carcinoma are secondaries where primary origin is mostly appendix or other parts of bowel. Mucinous cystadenoma is also a rare gynecological malignancies.[2] For its diagnosis IHC is of paramount importance.primary treatment is mostly similar to other EOC of ovary.[3] However the role of lymphadnectomy and appendicectomy is controversial. Pathologically

it has two variant namely expansile and infiltrative variety. Infiiltrative variety is rare and worse prognosis. Various chemo regime has been tried like FOLFOX and XELOX regime however overall response rate is only 30% which is lower than that of response to to serous carcinoma by pacli carbo regime. Survival of mucinous is better in early stages however in advanced cases it is having worse prognosis.

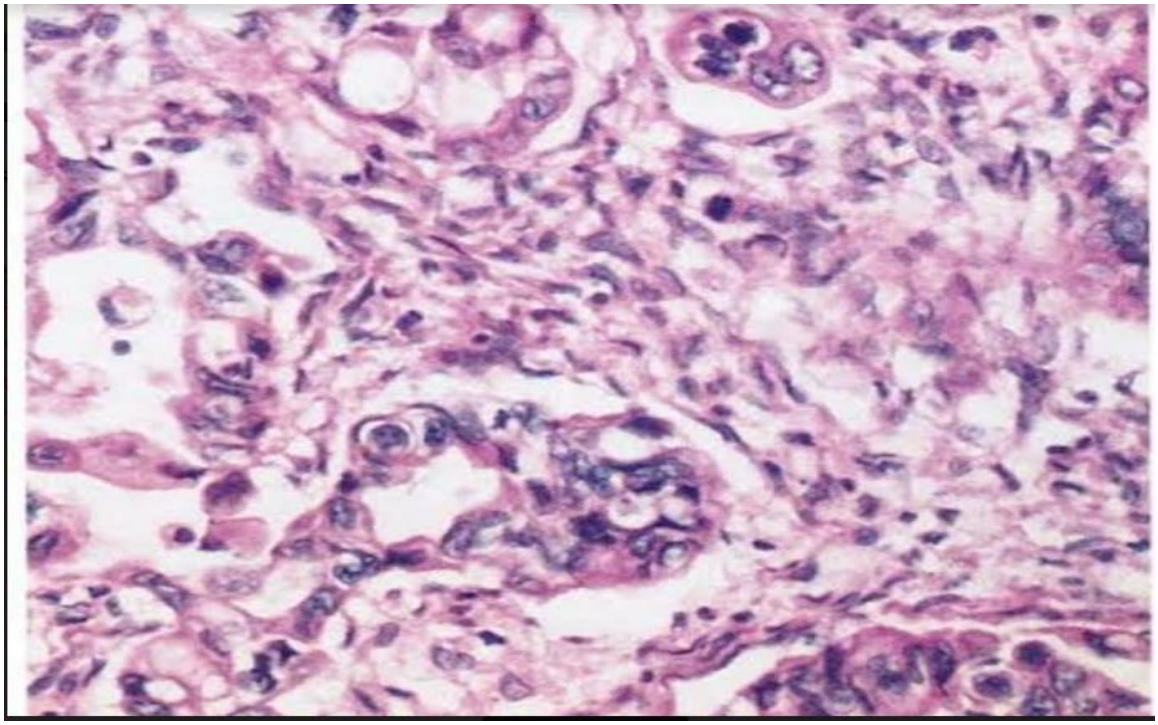


Fig-1 Hps- primary mucinous adenocarcinoma of ovary

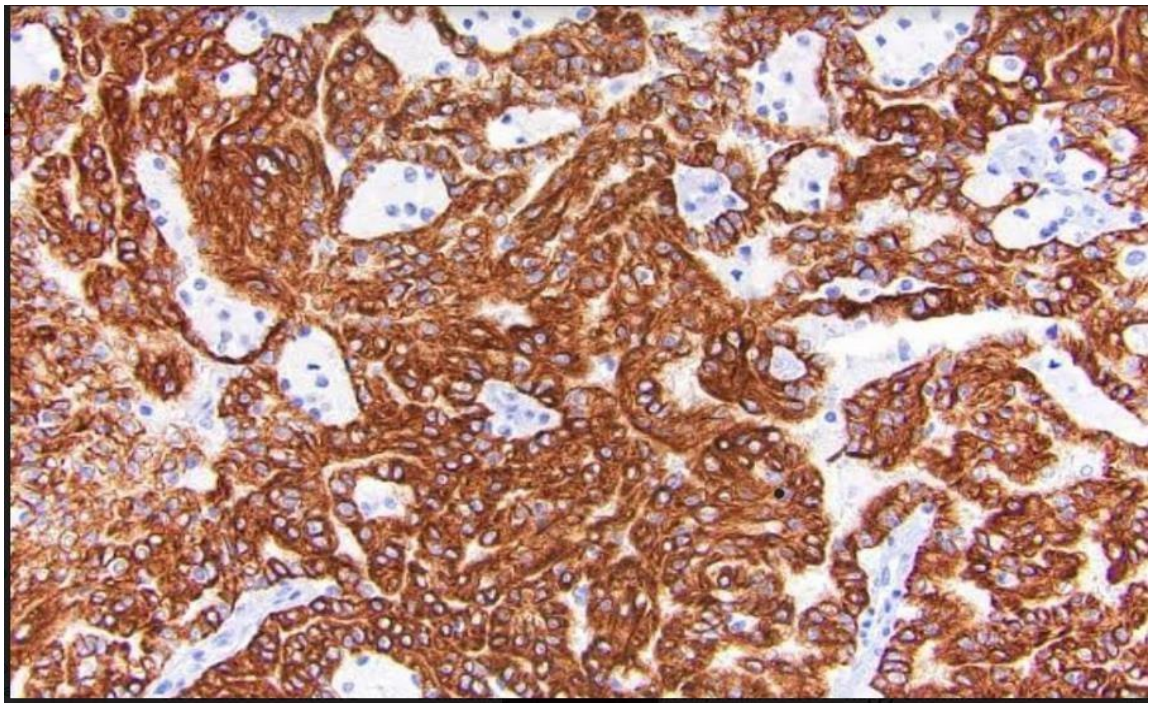


Fig -2 Ck-7 +ve primary mucinous adenocarcinoma of ovary

Table1Clinical and Diagnostic Statistics of mucinous adenocarcinoma of the Ovary

Variables	Values: n (%)
Total Cases (N)	62
Age (in years)	
Mean ± SD	40.73 ± 4.07
Median	41.50
Mode	42
Range (Max–Min)	18 (48–30)
Age Groups	
20-40	25 (40.32%)
40-60	37 (59.68%))
BMI	
Mean ± SD	21.03 ± 1.68
Median	21.50
Mode	21.60
Range (Max–Min)	8.4 (25.4–17)
BMI Groups	
15-20	14 (22.58%)
20-25	47 (75.81%)
25-30	01 (1.61%)
Tobacco	
Addicted	13 (21%)
Not addicted	49 (79%)
Symptoms	
Present	49
Abdominal dist.	39 (79.59%)
Pain Abdomen	10 (20.41%)
Absent	13
Pre-op albumin level	
Mean ± SD	2.45 ± 0.47
Median	2.50
Mode	2.60
Range (Max–Min)	3.23 (3.50–0.27)
Pre-op albumin level Groups	
0-1	01 (1.61%)
1-2	04 (6.45%)
2-3	49 (79.03%)
3-4	08 (12.91)
Cytoreduction	
Lymphadenectomy	
Done	13 (20.97%)
Not done	49 (79.03%)
Appendicectomy	

Done	11 (17.74%)
Not done	51 (82.26%)
PCI Score	
Mean ± SD	2.08 ± 1.79
Median	2
Mode	0
Range (Max–Min)	7 (7–0)

Variables	**Values: n (%)**
PCI Groups.	
0-2	38 (61.3%)
2-4	17 (27.4%)
4-6	06 (09.7%)
6-8	01 (1.6%)
CC Score	
Mean ± SD	0.39 ± 0.61
CC-0	41 (66.13%)
CC-1	19 (30.64)
CC-2	01 (1.6%)
CC-3	01 (1.6%)
Stageing	
Stage-1	45 (72.58%)
1A	22
1C1	07
1C3	16
Stage-2	05 (08.06%)
Stage-3	12 (19.35%)
Sub-Acute obstructon	
SAIO	13 (21%)
Surgical	49 (79%)
Median Blood Loss	
Mean ± SD	1.4
Median	1.5
Mode	1.5
Range (Max–Min)	1.9 (2.3-0.4)
Adjuvant chemo	
Loss to follow-up	06 (15.00%)
IC3	01
II	02
IIIC	03
Death	04 (10.00%)
Survive	30 75.00 %)

Fertility sparing surgery (USO+SURGICAL STAGING) in 23 cases (37%)

Omental positivity in 12 cases of stage IIIC. Positivity rate was 20%.
Serum CEA level was elevated in 28 cases(45.1%).
Median size of the mass was 12 cm

Regression Analysis

	coef	exp(coef)	se(coef)	z	p-value
age	-0.01792	0.9822	0.06654	-0.269	0.788
tobacco	-0.5003	0.6063	0.7689	-0.651	0.515
pathology	-0.1934	0.0000	9560	-0.002	0.998

Table-2

	B	Exp(B)	S.E.		Sig. (p-Value)
age	-.021	.980	.079		.796
tobacco(1)	-.545	.580	.860		.526
pathology(1)	-20.122	.000	12090.987		.999
Constant	-.134	.874	3.237		.967

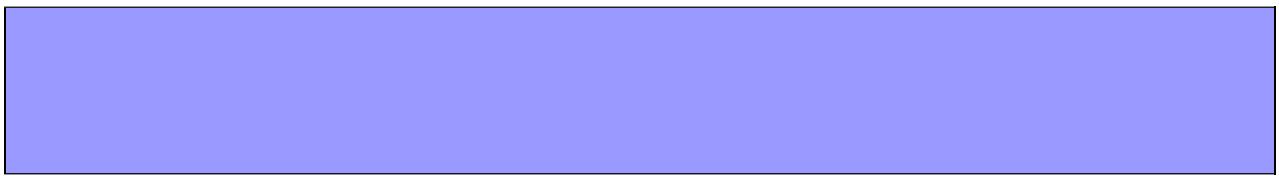
Table -3

The above table shows the results of the regression analysis.Where, the dependent variable is Recurrence and independent Variablesare age, tobacco, pathology.From the above analysis we can see that p-values for all the independent Variablesare more than 0.05. hence none of the independent factor are significantly associated with reoccurrence.

Table4

Correlations				
		SAIO	albumin	BLOOD LOSS
SAIO	Pearson Correlation	1	-.111	-.177
	Sig. (2-tailed)		.390	.168
albumin	Pearson Correlation	-.111	1	.069
	Sig. (2-tailed)	.390		.594
BLOOD LOSS	Pearson Correlation	-.177	.069	1
	Sig. (2-tailed)	.168	.594	

Table5

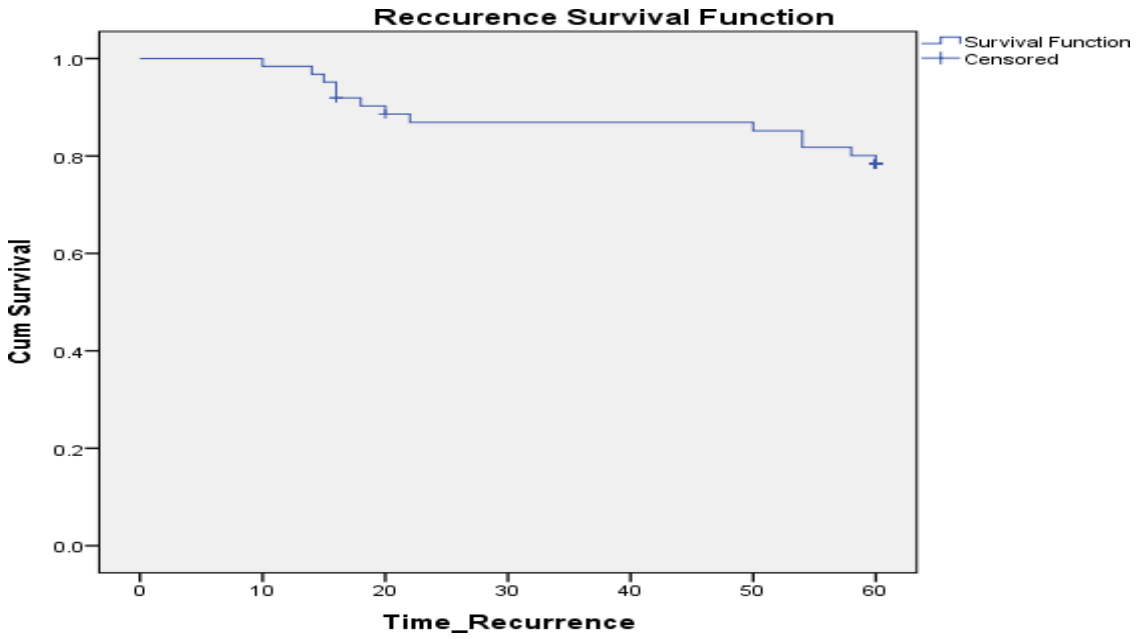


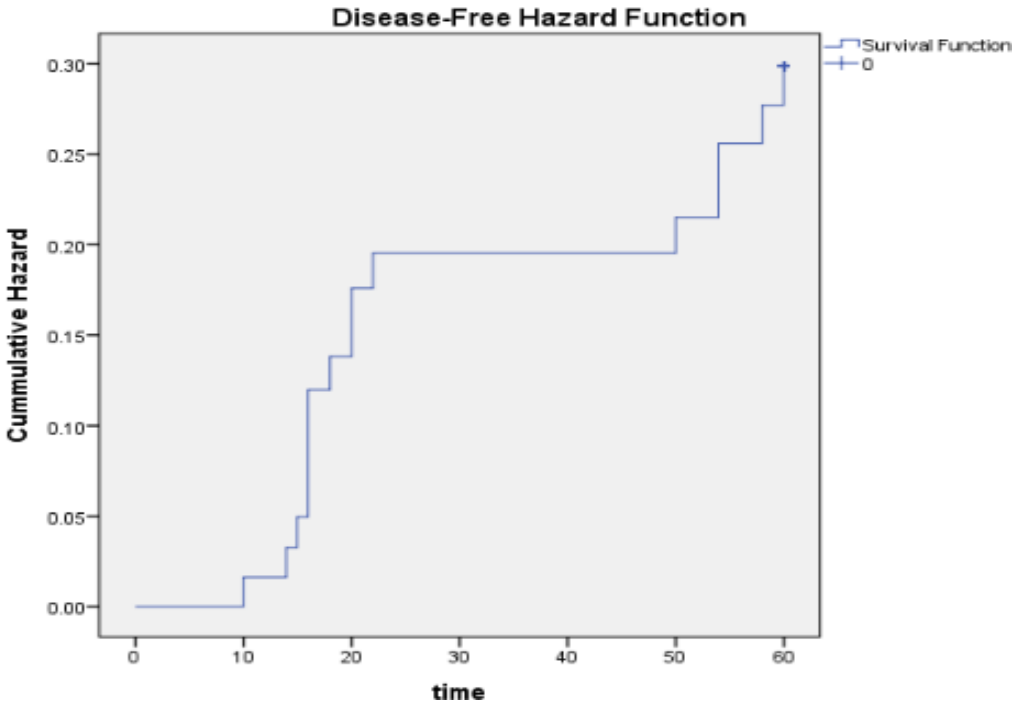
Correlations				
		SSI	albumin	Blood Loss
SSI	Pearson Correlation	1	-.088	.003
	Sig. (2-tailed)		.494	.979
albumin	Pearson Correlation	-.088	1	.069
	Sig. (2-tailed)	.494		.594
Blood Loss	Pearson Correlation	.003	.069	1
	Sig. (2-tailed)	.979	.594	

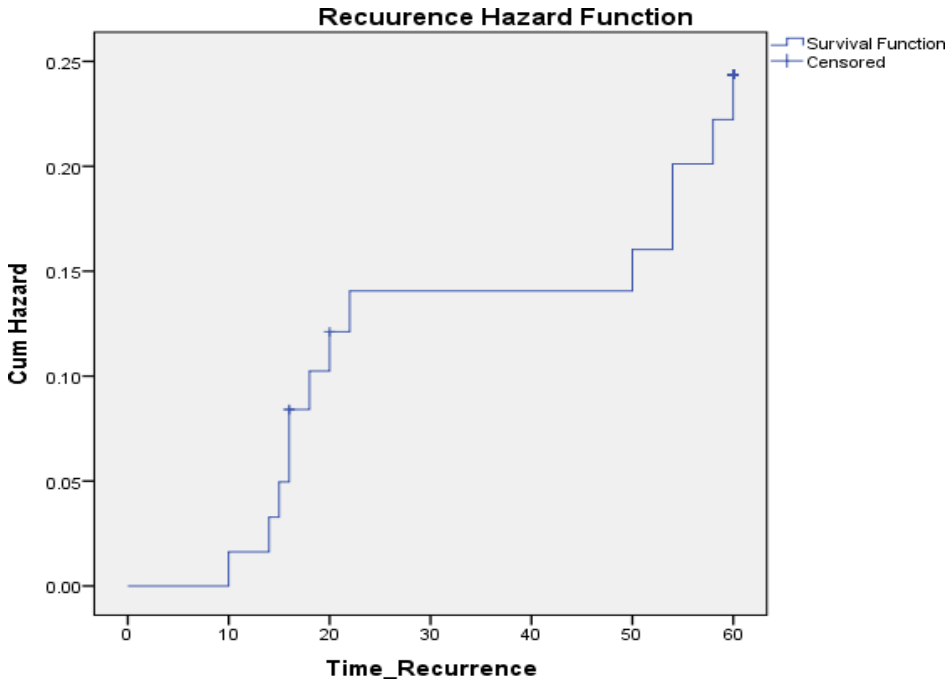
Correlations					
		SSI	SAIO	albumin	Blood Loss
SSI	Pearson Correlation	1	.440**	-.088	.003
	Sig. (2-tailed)		.000	.494	.979
SAIO	Pearson Correlation	.440**	1	-.111	-.177
	Sig. (2-tailed)	.000		.390	.168
albumin	Pearson Correlation	-.088	-.111	1	.069
	Sig. (2-tailed)	.494	.390		.594
Blood Loss	Pearson Correlation	.003	-.177	.069	1
	Sig. (2-tailed)	.979	.168	.594	
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 6

Mean			
		95% Confidence Interval	
Estimate	Std. Error	Lower Bound	Upper Bound
51.919	2.167	47.672	56.166


Reccurence Survival Function
Survival Function
Censored
Cum Survival
1.0
0.8
0.6
0.4
0.2
0.0
0
10
20
30
40
50
60
Time_Recurrence


Disease-Free Hazard Function
Survival Function
0
Cummulative Hazard
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0
10
20
30
40
50
60
time



Mean Survival Time

Mean Survival Time			
Estimate	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
53.879	1.957	50.043	57.716

DISCUSSION

Overall incidence was 2.98% which is comparable to recent studies. Most common in reproductive age group (median 41.5 yrs.)Early stages(stage 1) comprised 72.5% cases which indicates that mucinous carcinoma have less propensity to be diagnosed at late stage than HGSC[4,5] . Tobacco addiction was seen in 20% cases. In 96% cases optimal cytoreduction were achieved (CC0+CC1). Lymphadenectomy was done in 20% cases precisely due to enlarged node. Routinely lymph node positivity is only 2-3% in mucinous carcinoma hence it is not recommended[6]. However recent studies have shown that in infiltrative variety of Mucinous carcinoma lymph node positivity can go upto 30% hence there may be a role of lymphadenectomy be present. Similarly appendicectomy was done in 17% cases. Routine appendicectomy is not needed if appendix looks healthy[7,8]. All the cases should have preoperative endoscopy colonoscopy mammography chest x ray and pap smear to look for other primaries. Both subacute intestinal obstruction and Surgical site infection were seen in 20% cases. Adjuvant is required from stage 1c onwards; however recent ESGO guidelines suggest even in 1A with infiltrative variety should get chemo[9]. Both Paclitaxel carboplatin combination and FOLFOX

combination can be used in mucinous carcinoma although pacli carbo has lower response rate compared to HGSC(30% vs 80%).[10]

Both the regimen has similar chemo response rate.Median DFS for stage 1c3 was 52 months and that of advanced stage is 16 months. 4 years DFS was 85.14% for stage 1c3. As only 4 patients died and that too off stage IIIC hence OS for 1c cannot be calculated.

Conclusion

The disease mostly presents at early stage and reproductive age group. Early diagnosis and optimal cytoreduction is paramount for survival. Advanced stage disease have worse prognosis compared to HGSC.Paclitaxel carboplatin can be used as adjuvant chemo in stage 1c, II, III.

CONFLICTS OF INTEREST

There are no conflicts to declare.

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