CLINICO PATHOLOGICAL ANALYSIS OF EPITHELIAL OVARIAN CARCINOMA

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INSTITUTE OF OBSTETRICS AND GYNAECOLOGY

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BONAFIDE CERTIFICATE

This is to certify that this dissertation is the bonafide work of **Dr.A.SRIDEVI** on **"CLINICO PATHOLOGICAL ANALYSIS OF EPITHELIAL OVARIAN CARCINOMA"** during her M.S.,(Obstetrics and Gynaecology) course from 2012- 2014 at the Government Madras institute of Obstetrics and Gynaecology, Egmore. Chennai – 600 008, Chennai.

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DECLARATION

I, **Dr.A. SRIDEVI**, solemnly declare that the dissertation titled **"CLINICO PATHOLOGICAL ANALYSIS OF EPITHELIAL OVARIAN CARCINOMA"** is done by me at Institute of Obstetrics & Gynaecology, Madras Medical College during 2012-2014 under the guidance of **Prof. Dr.UMA SHANTHI .M.D., D.G.O.** This dissertation is submitted to the Tamil Nadu Dr.M.G.R. Medical University, Chennai in partial fulfilment of the requirement for the award of MD degree Branch II (Obstetrics and Gynaecology).

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ABSTRACT

TITLE

"CLINICOPATHOLOGICAL ANALYSIS ON EPITHELIAL OVARIAN CARCINOMA"

AIM AND OBJECTIVE

1. To analyse various factors associated with epithelial ovarian carcinoma
2. To study the various clinical presentation, ideal investigations and management and its impact on outcome of epithelial ovarian carcinoma

SETTING

Medical oncology Department

Institute of obstetrics and Gynaecology, Egmore Chennai – 600 008.

STUDY DESIGN

Analytical Study

PERIOD : One and half years

ETHICAL CLEARANCE

Ethical clearance obtained

SAMPLE

Patients Diagnosed and treated for epithelial ovarian carcinoma at IOG for a period of one and a half years (June 2012 – Dec 2013)

Materials And Methods

An analysis of patients who underwent therapy for epithelial ovarian carcinoma at IOG Egmore from June 2012 to Dec 2013 were conducted. Patients were examined for demographic details, presenting signs and symptoms, diagnostic modalities complications, Data was analyzed. Test of significance – Pearson Chi square test.

89 patients diagnosed as epithelial ovarian carcinoma were included in the study. Demographic details were collected. Detailed history and examination was done. Serum CA 125 was done. Histopathology (surgery or ascitic fluid analysis) report 2obtained. Type of surgery and chemotherapy given was analysed.

Maximum number of patients were between age group 41 and 50 years.

Mean age of presentation was at 50 years. Most of the women presented with complaints of distension and pain abdomen and gastrointestinal symptoms. Serum CA 125 level was raised in most of cases of epithelial ovarian cancer other than mucinous. CA 125 level was normal in most of the early stage carcinoma.

CONTENTS

INTRODUCTION

INRODUCTION

Ovarian cancer has become increasingly important because they have gradually increased the mortality rate due to female genital cancer. Ovarian cancer is the leading cause of death due to gynecological malignancies among women in the world. Ovarian cancer is the second most common of all genital cancers and accounts for 10-15% of all gynecological cancers in India. Epithelial ovarian cancers account for about 90% of ovarian malignancies.

The risk of woman developing cancer of the ovary in her lifetime is 1- 1.5% and that of dying from ovarian cancer is 0.5%. Risk factors for ovarian carcinoma include nulliparity, early menarche, late menopause, infertility, age, asbestosis talc personal history of breast or endometrial cancer and family history of breast or endometrial cancer.

The objective of this study is to evaluate the clinicopathologic characteristics, treatment strategies and and its impact on prognosis of epithelial ovarian carcinoma. A review of the patients who were registered from June 2012 to December in Medical Oncology Department IOG Egmore and underwent therapy for epithelial ovarian carcinoma were conducted. Patients were examined for presenting signs and symptoms,

diagnostic modalities ,laboratory values surgical procedures ,pathological features and post operative complications.

Data was entered in to a standard proforma and analyzed. Most of the patients were from Chennai and places around Chennai. Few patients were from places other than chennai from various places of Tamil Nadu. There were few patients from nearby states. This study presents the single institute experience regarding the clinicopathologic characteristics and treatment strategies in epithelial ovarian carcinoma.

AIM OF THE STUDY

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To analyse various factors associated with epithelial ovarian carcinoma To study the various clinical presentation, ideal investigations and management and its impact on outcome of epithelial ovarian carcinoma .

REVIEW OF LITERATURE

REVIEW OF LITERATURE

Ovarian cancer accounts for 30 % malignancies of the female genital tract in the developed countries. The incidence ovarian cancer increases with age and it peaks in the eighth decade. About 40 % epithelial ovarian cancer occurs at more than 70 years of age. The median age at diagnosis is 63 years. Epithelial ovarian cancer is a disease of older age.

Childbearing and breast feeding protect against the development of ovarian cancer. Protection offered by the contraceptive pills is thought to be due to the reduction in number of ovulation. Reduction in number of ovulation minimizes the damage and repair of surface epithelium. In the past few decades, there is reduction in parity and it may be a reason for increased incidence of ovarian cancer.

Most of the cases of epithelial ovarian carcinoma are sporadic. Only a small percentage of epithelial ovarian carcinoma are familial.

RISK FACTORS

The risk factors associated with ovarian cancer are

- Older age groups
- Nulliparity
- Infertility
- Early menarche
- Late menopause
- White race
- Endometriosis
- Pelvic inflammatory disease
- Family h/o cancers Ovary, breast Endometrium, colon
- Diet rich in animal fat
- Perinal exposure to talc

Incessant ovulation is thought to be an important aetiological factor. This explains the increased risk in nulliparous women, women with early menarche and late menopause and women with infertility.

Prolonged use of ovulation induction drugs like clomiphene citrate has also been implicated. Maximun number of clomiphene induced Cycles allowed is 12. But it is ideal to stop its use after six cycles.

FAMILY HISTORY

Whereas women with no family history of ovarian cancer have a 1.5 % lifetime risk of developing the disease, those with one affected first degree relative have a 5 % risk and women with two first degree relatives have a 7 % risk. 5 to 10 % of cases of ovarian cancer are thought to be familial. Inherited mutations in BRCA 1 and BRCA 2 genes predispose to both breast and ovarian cancer. It is Mendelian dominant and have 80 % penetrance. BRCA 1 is a large gene with 1,00,000 base pairs, any one of which may be mutated.

It is found in 5 % of women diagnosed with ovarian cancer before the age of 70 years. Estimates of the lifetime risk ofcancer associates with BRCA mutations are variable and depend upon the population studied. It

ranges from15 to60 % to ovarian cancer when compared with 1.5 % lifetime risk among the general population. There are several other genes that predisposes to ovarian cancer. HNPCC is Hereditory Non Polyposis Colorectal cancer also called as Lynch II cancer. Some of these oncogenic genes associated with ovarian cancer are associated with HNPCC. HNPCC carrier have 9-12 % lifetime risk of ovarian cancer.

Hereditory ovarian cancers occur about 10 years earlier than the sporadic ovarian cancers at the mean age of 50 years. The risk of carrying a gene for ovarian cancer increases with number of relatives with the same cancer. When two first degree relatives are affected, the possibility of carrying an affected gene is 35 t0 40 %.

The genetic predisposition for an individual woman can be difficult to determine without expert knowledge. Multiple primary cancers in one individual or related early onset cancer s in a family tree are suggestive of a predisposing gene. Except for those families where a specific gene abnormality is identifiable, there are few families in which it is possible To be sure of dominant inheritance. When there are four first degree relatives with early onset or bilateral breast cancer in combination with ovarian cancer the risk of inheriting a mutated gene is nearly 50 %.

APPROXIMATE LIFETIME PERCENTAGE RISK OF DEVELOPING OVARIAN CANCER

	POPULATION	**LIFETIME RISK**
1.	General population	1.5%
2.	One first degree relative affected under 55 years	5.2%
3.	One first degree relative affected Over 55 years	3.4%
4.	Two first degree relatives affected	7 %
5.	BRCA 1 carrier	28- 44 %
6.	BRCA 2 carrier	27%
7.	HNPCC carrier	12 %

Careful family history should be taken and referral to the clinical cancer genetics should be done. Those women who are assessed to be of

increased risk should be offered annual transvaginal ovarian ultrasound and serum CA 125 tumour marker blood test. Screening should start at the age of 30 years or 5 years before the age of onset of the first ovrian cancer in the family. Testing for gene mutations is very costly, it costs around 60,000 to 1,00,000 Rs for testing BRCA 1 gene.

Specific gene mutation is the family is known, that gene can be tested in the women of that family. Hence prophylactic risk reducing surgery is recommended for BRCA1 and BRCA2 carries, once family is completed as they have high percentage risk of developing ovarian cancer. Kauff ND et al studied the risk reducing salpingo oophorectomy in women with mutation in BRCA 1 or BRCA 2 . It was a prospective study of 170 women . They claim a risk reduction from 6.9% to 3.1 % . This is after a mean period of 2 years.

Surgery consists of bilateral salpingo- oophorectomy. It may be through laparotomy or laparoscopic as per expertise. It is usually laparoscopic salpingo-oophorectomy. HNPCC carriers are also offered hysterectomy. Neither prophylactic salpingo oophorectomy nor screening completely eliminate the risk of developing ovarian cancer.

Screening is not proven to improve survival. Even if the ovaries are removed there is a small continuing risk of developing primary peritoneal cancer. The United Kingdom Familial Ovarian Cancer Screening Study (UKFOCSS) recruited 3,563 high risk women.

The high risk was either due to family history or BRCA 1 or 2 gene mutation. In part 1 of the trial woman had annual TVS and CA 125. It has been found that annual screening lacked sensitivity for early stage disease. It has been found that it down staged disease volume and that it may have improved optimal debulking rate

CRITERIA FOR CATEGORISATION OF A WOMAN AS AT HIGH RISK OF OVARIAN CANCER

1. Two or more first degree relatives affected by ovarian cancer

2. One first degree relative with ovarian cancer and one with breast cancer diagnosed before the age of 50 years. One first degree relative with ovarian cancer and two with breast cancer diagnosed before the age of 60 years.

3. An individual with a mutation of one of the genes known to predispose to ovarian cancer.

4. Three first degree relatives with colorectal cancer with atleast one diagnosed below the age of 50 years, as well as one case of ovarian cancer.

Borderline ovarian tumous rarely precede invasive carcinoma. Hence identification of a premalignant stage in ovarian cancer has yet to be identified. The multicentric United Kingdom Collaborative Trial of Ovarian Cancer Screening (UKCTOCS) is the largest study of its kind to date, results are awaited

Whether the screening has an effect on the mortality will be known when the trial is concluded in 2014. The study also aims to address the cost, acceptance, physical and psychological morbidity. Currently there is no indication to screen for ovarian carcinoma in low risk women i.e., without a familial history of ovarian and breast cancer.

SCREENING METHODS

Since effective screening method is not available and early stage disease is silent most ovarian cancer are diagnosed at an advanced stage. Methods used for screening are

- Routine yearly pelvic examination
- Tumour markers-
    - CA 125,
    - CA-19-9. CA 15-3
    - Lipid associated sialic acid
    - Osteopontin
- Transvaginal ultrasound
- Proteomic patterns
    - Genetic testing- in indicated patients.

- Of the screening methods annual pelvic examination has a low sensitivity for diagnosing ovarian cancer.

CA125

CA 125 is a tumour marker of epithelial ovarian malignancy. CA 125 stands for Cancer Antigen 125. It was named so because it was the 125^{th} antibody when testing for various antibody against ovarian tumour was performed. It is tested by drawing venous sample of blood. Normal level of CA 125 is 0 – 35 U/mL. A cut off value of 35 U/mL is used in postmenopausal women. In premnopausal women a cut off of 200 U/mL is recommended. Bast and collegues described first about CA 125 in 1983.

CA 125 is produced in small quantities by by normal ovarian epithelial cells. It is also produced by peritoneal lining cells, lining cells of Gastro Intestinal Tract, pancreas breast and lung.

It is non specific in that it is raised in non cancerous conditions like normal menstruation, pregnancy, endometriosis, fibroids, pelvic inflammatory disease, ovarian cysts, liver diseases such as cirrhosis or hepatitis, pancreatitis and other cancers like pancreatic and lung cancer.

The test is used along with transvaginal ultrasound in multimodal screening.

Serial estimation of CA 125 has been found to be more useful than a single value for screening. When used alone, CA 125 lacks specificity and the sensitivity is about 50%. It is being used in ovarian cancer screening in high risk woman and in calculating RMI.

NICE suggests CA 125 for women with symptoms of bloating, feeling full quickly, loss of appetite, pelvic or abdominal pain and frequent or urgent micturition. CA 125 levels are processed using ROCA, risk of Ovarian Cancer Algorithm, which stratifies women according to age, post menopausal status and pattern of CA 125 over time .

In UKFOCSS, United Kingdom Familial Ovarian Cancer Screening Study, phase 2 annual TVS and four monthly CA 125 are done. Results are awaited.

TRANSVAGINAL ULTRASONOGRAPHY

TVS is used to differentiate between benign and malignant tumours of the ovary. Ultrasonographic characteristics of malignancy are

- Ovarian volume > 10 cm^3
- Solid / complex (solid and cystic)
- Multiloculated
- Thickness of cyst wall (> 3 mm)
- Septal thickness (> 2 mm)
- Bilateral
- Papillary excresences
- Increase in vascularity
- Doppler resistance index < 0.40

Due to neovascularisation of malignant tissue, the blood flow is increased and resistance is low. This can be measured using Doppler and resistance index calculated. Ultrasonography has a high sensitivity. But it has low specificity for diagnosis of early ovarian cancer.

PROTEOMIC PATTERNS

Proteomic patterns are proteins and protein fragments that circulate in the blood. They indicate early changes caused by genetic mutations.

PREVENTION

In women who are at high risk for ovarian cancer, prophylaxix is indicated. The methods used are

- Oral contraceptives
- Prophylactic bilateral salpingo oopherectomy
- Tubal sterilization
- Hysterectomy

Chemoprevention with oral contraceptives is a proven method of prevention. The protective effect persists for 10 years or more after stopping the medication. Prophylactic salpingo oophorectomy is recommended at an age more than 35 years after these women complete their family. This procedure reduces the risk by 90 %.

PRESENTING FEATURES

Ovarian cancer is often described as a silent killer. But early symptoms are frequently noted. Abdominal bloating is frequent presentation. Urinary frequency, a sense of fullness and abdominal and pelvic pain are the other symptoms.

The symptoms are often dismissed byhealth care professionals as these are nonspecific. Hence the ovarian cancer is usually diagnosed at an advanced stage when the prognosis is poor. NICE suggests CA 125 for women with these symptoms suggestive of epithelial ovarian malignancy

WHO CLASSIFICATION OF OVARIAN TUMOURS

1. EPITHELIAL TUMOURS
2. GERM CELL TUMOURS
3. LIPID (LIPOID) CELL TUMOUR
4. SEX CORD (STROMAL) TUMOURS
5. GONADOBLASTOMAS

6. SOFT TISSUE TUMOURS NOT SPECIFIC TO OVARY

7. UNCLASSIFIED TUMOURS

8. SECONDARY (METASTATIC) TUMOURS

9. TUMOUR LIKE CONDITIONS

The majority of ovarian tumours are epithelial. 59 % of all ovarian tumours and up to 90 % of all the ovarian malignancies are epithelial. These arise from the cells covering the surface of the ovary and probably also from the fimbrial end of the fallopian tube. Less frequently they arise from the endometriotic implants within the ovaries. Pathological classification is made according to the WHO classification.

Epithelial tumours can be further classified as:

- SEROUS EPITHELIAL CARCINOMA
- MUCINOUS EPITHELIAL CARCINOMA
- ENDOMETROID EPITHELIAL CARCINOMA
- CLEAR CELL EPITHELIAL CARCINOMA

- TRANSITIONAL OR BRENNAR EPITHELIAL CARCINOMA
- UNCLASSIFIABLE EPITHELIAL CARCINOMA
- MIXED EPITHELIAL CARCINOMA
- UNDIFFERENTIATED EPITHELIAL CARCINOMA

Serous tumours are the most common subtype and account for about 50 %

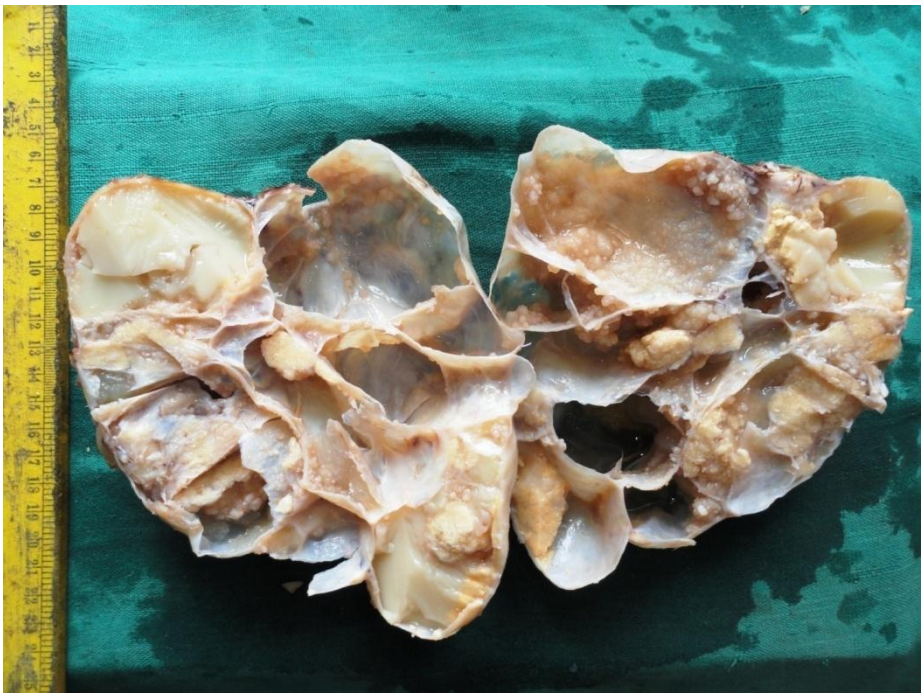
Next frequent is endometroid epithelial carcinoma

Pseudomyxoma peritonei results from rupture of mucinous tumour

Clear cell tumours are rare

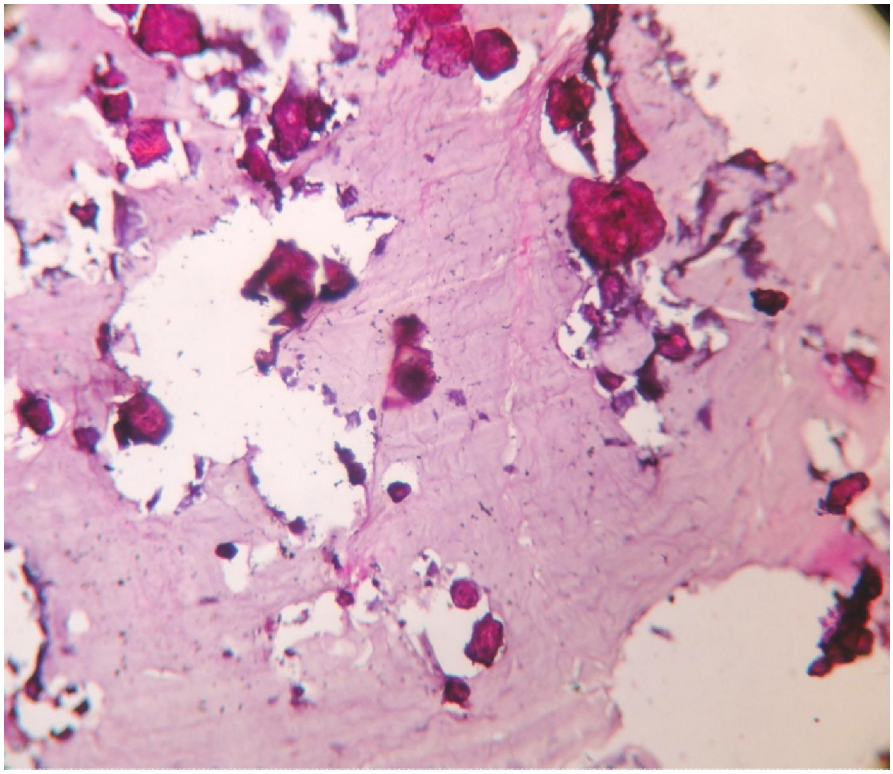
Brennar tumour is called transitional tumour

CUT SECTION PAPILLARY SEROUS CYSTADENO CARCINOMA



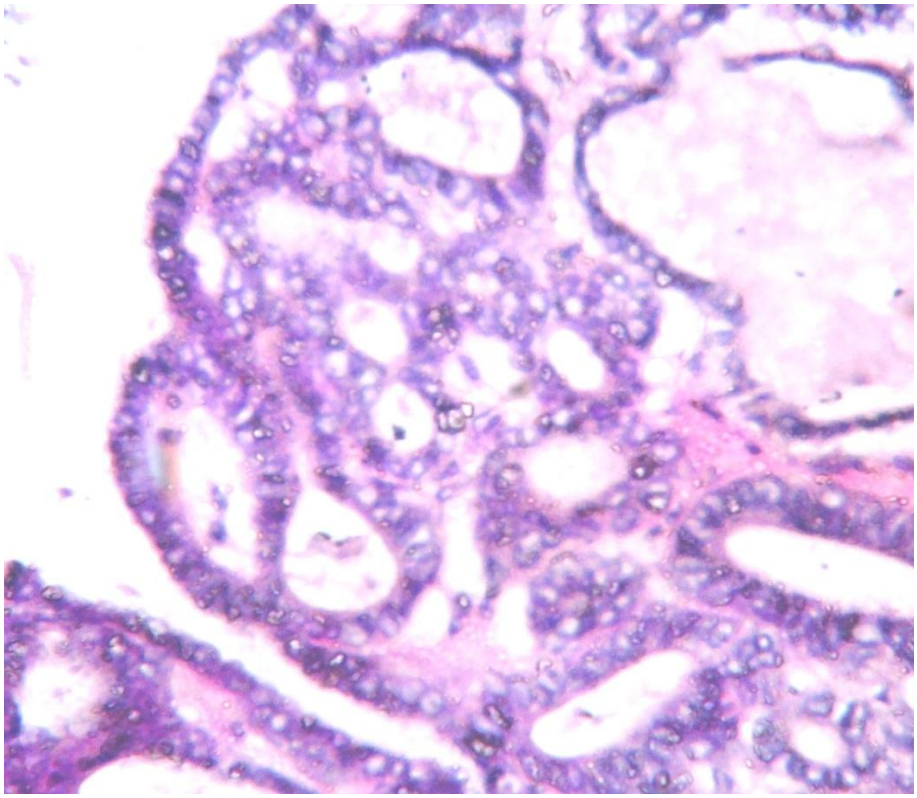
- Papillary growth

HPE PAPILLARY SEROUS CYSTADENO CARCINOMA



- Keratinisation

HPE PAPILLARY SEROUS CYSTADENO CARCINOMA



- Increased nuclear cytoplasm ratio.

- Tall columnar cells resembling endosalpinx

MUCINOUS CYSTADENO CARCINOMA

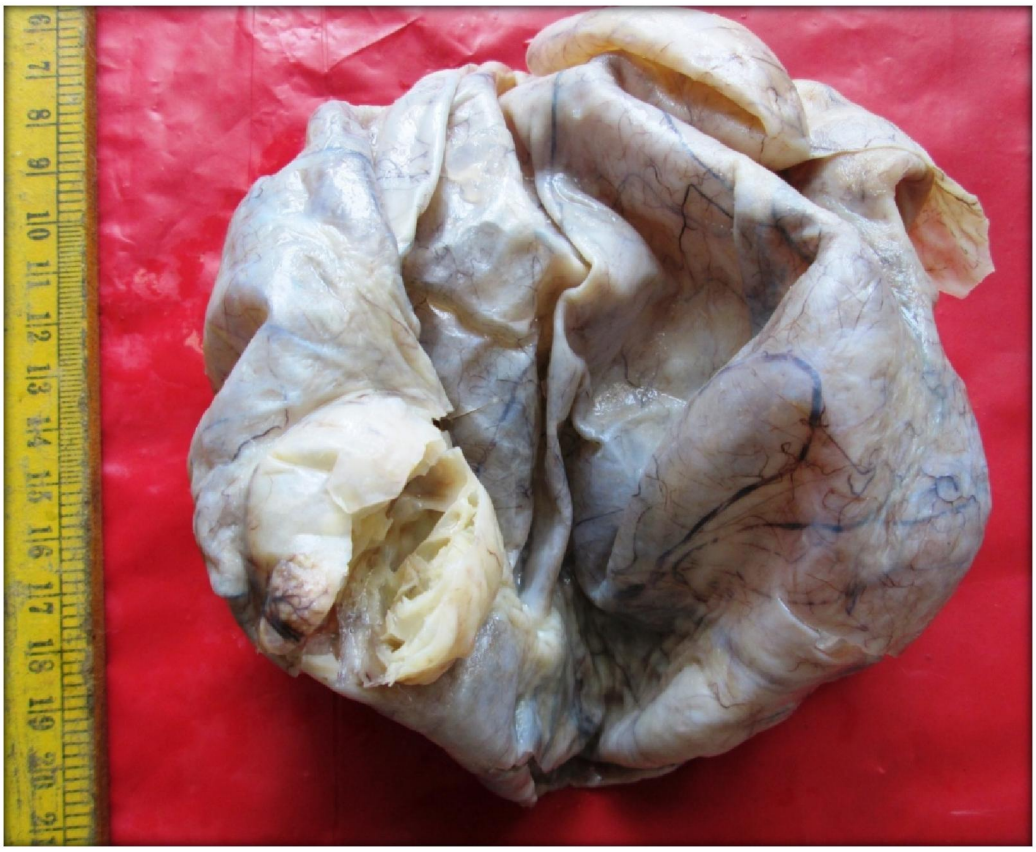
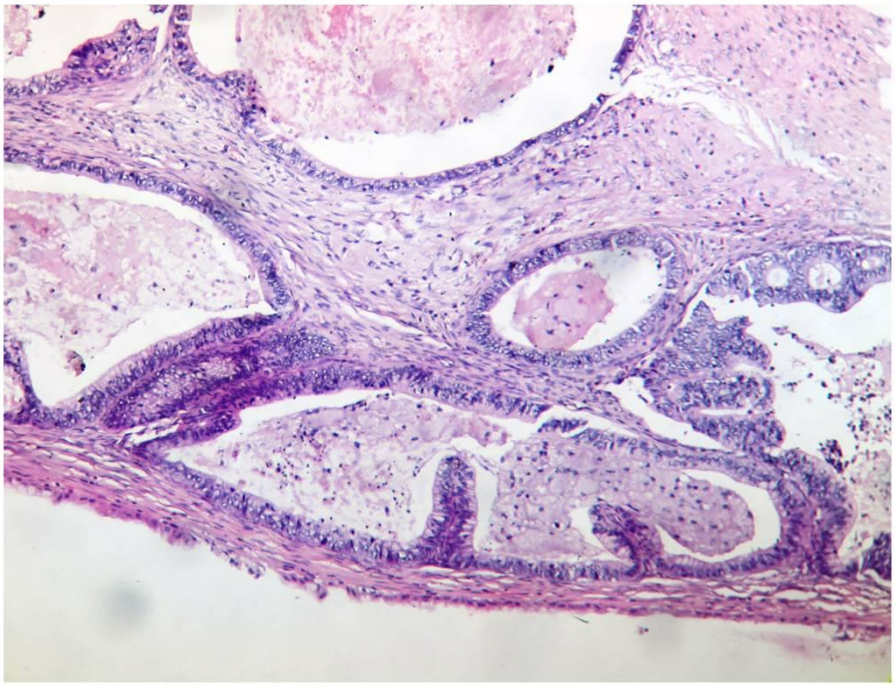


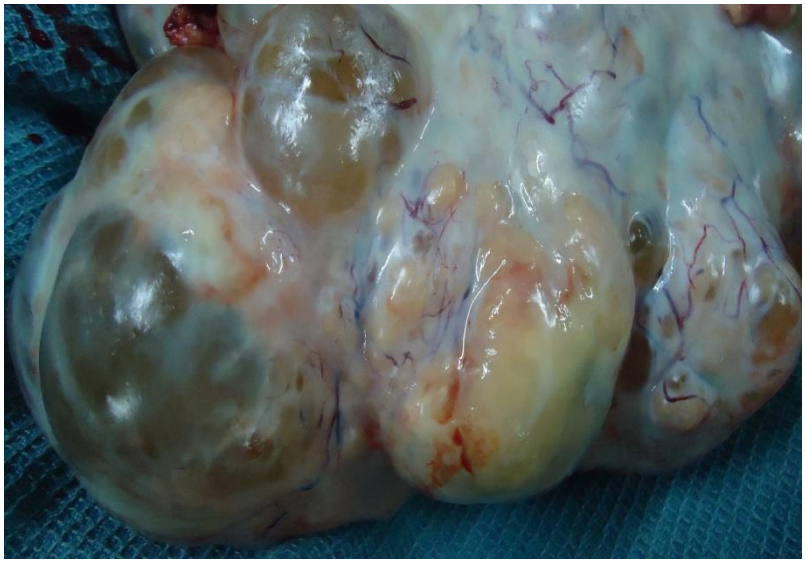
PHOTO MICROGRAPH OF MUCINOUS CYSTADENO CARCINOMA



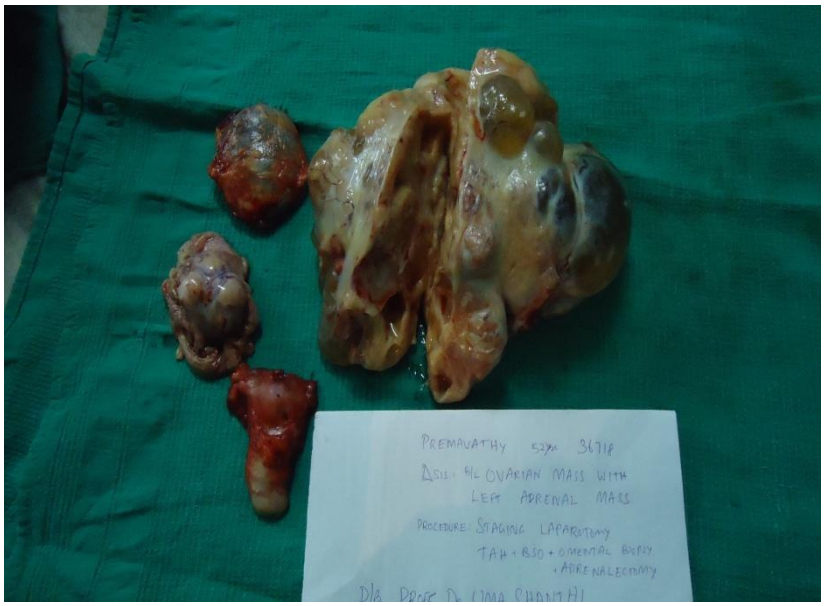
- Columnar mucin secreting epithelium

EXTERNAL SURFACE OF MALIGNANT EPITHELIAL

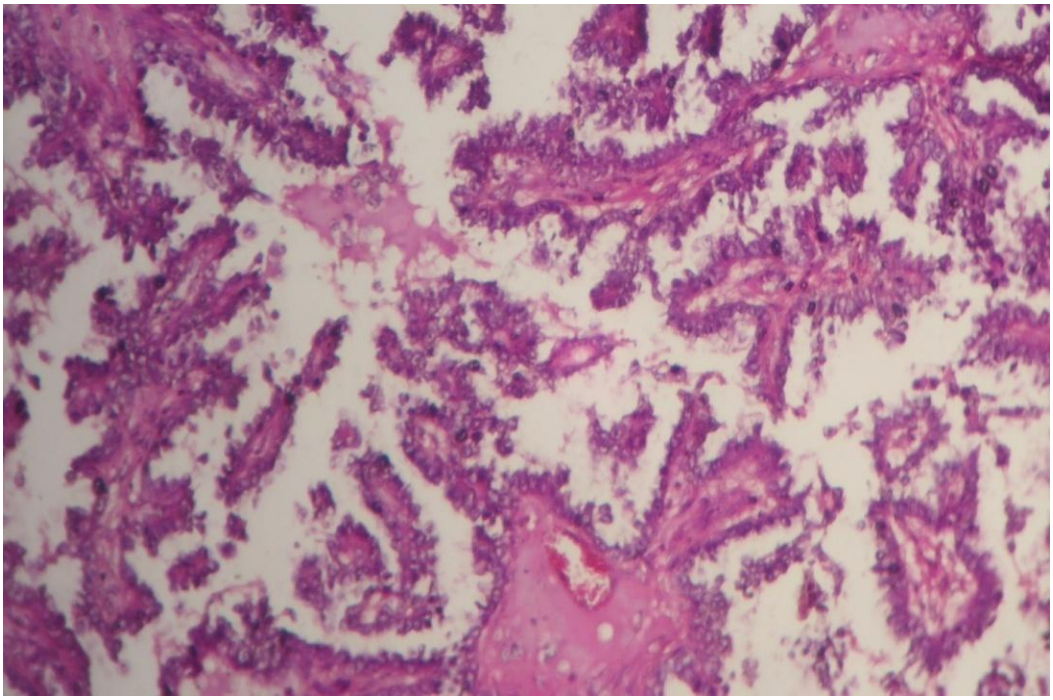
ENDOMETROID ADENOCARCINOMA



CUT SECTION



PHOTOMICROGRAPH OF ENDOMETRIOID ADENO CARCINOMA



- Increased nuclear cytoplasm ratio.

- Glandular epithelium resembling endometrium.

PHOTOMICROGRAPH OF CLEAR CELL CARCINOMA

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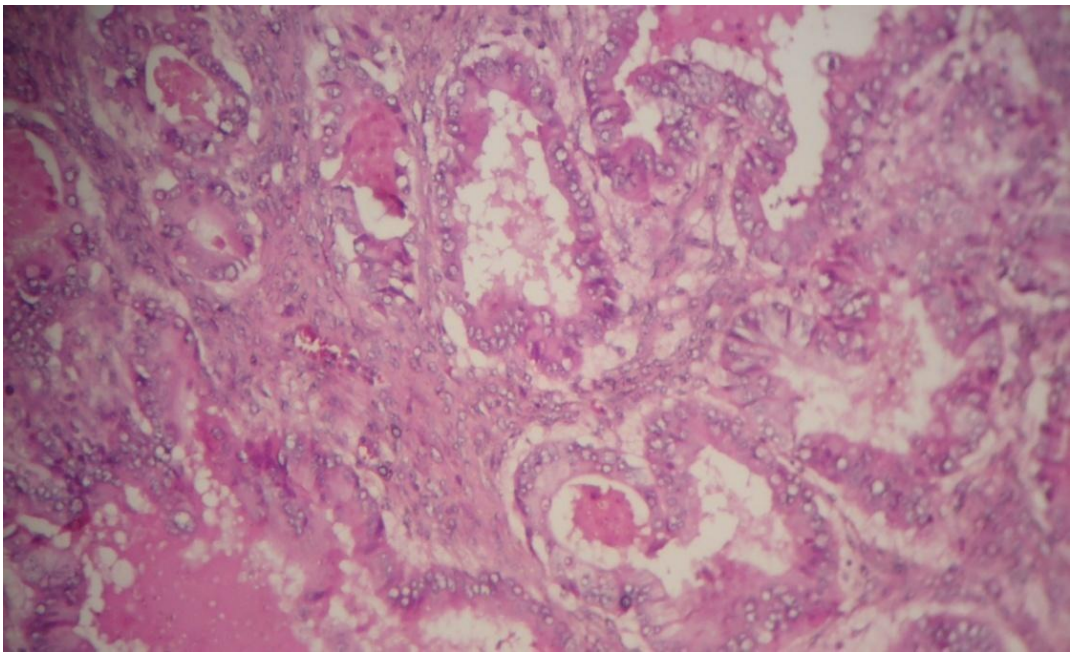


- Increased nuclear cytoplasm ratio.
- Large cuboidal epithelial cells
- Hob nail pattern.

GRADE

Malignant tumours are graded as I, II, III i.e well, moderately, poorly differentiated according to pattern of growth and cytology.

PRIMARY PERITONEAL TUMOUR

Peritoneum can undergo malignant transformation into primary peritoneal carcinoma. When disseminated metastatic epithelial ovarian cancer like picture is seen with normal looking ovaries primary peritoneal carcinoma is diagnosed. can be indistinguishable clinically and histologically from metastatic epithelial ovarian cancer.

BORDERLINE TUMOURS

Borderline ovarian tumours are from the ovarian epithelium. They are of a category from clearly benign and clearly malignant . The behavior of these tumours is more indolent. They may be associated with extra ovarian disease of similar histology with the presence of implants in omentum and peritoneum.

Thus it may be possible to have advanced stage borderline disease. Other terms used to describe the borderline tumours are carcinoma of low malignant potential and atypical proliferating tumour. The term borderline tumour is accepted by the WHO.

Bordeline tumours are typically found in a younger population than frank epithelial cancers. One third occur in women under 40 years. Overall Prognosis will be good. Recurrences have been reported as late as 30 years after initial presentation. A women after a unilateral salpingo oopherectomy and diagnosed as borderline tumour have to be informed that there is 7 % recurrence risk without further surgery.

Benefit of chemotherapy in borderline tumours lacks evidence. A group of women with borderline serous tumours have invasive omental or peritoneal implants. In a study of 44 women with serous borderline tumours between 3 and 9 years later four women with invasive implants died despite chemotherapy.

DIAGNOSIS

Early diagnosis is associated with a better outcome. Hence improvements in cure rates of ovarian cancer are likely to occur when prompt diagnosis and appropriate referral is performed. The symptoms often are non specific and may mimic other conditions.

The usual symptoms are bloating and abdominal pain. Change in bowel habit, backache, weight loss and menstrual disorders are the others. An average general practitioner may see a case of ovarian cancer once in 5 years.

Thus the non specific nature of the symptoms may lead to a delay of upto 1 year in diagnosis. A study by Goff et all suggested that even women in early disease experience a distinct set of symptoms. More than presence of symptoms their frequency and persistency is indicative of ovarian cancer.

INITIAL ASSESSMENT

It is estimated that 5 to 10 % of women in their life time will undergo a surgical procedure for a suspected ovarian neoplasm. The chance of these women to have malignancy is 13 to 21 % . Since the majority of the masses are benign it is important to assess preoperatively whether the woman is at high risk of ovarian malignancy.

For a woman with a pelvic mass routine assessment should include a full history and examination, vaginal and rectal examination. investigation should include an ultrasound of abdomen and pelvis and serum CA 125 levels. TVS and CA 125 remain the core of all new screening strategies. Ultrasound and CA 125 together are used to calculate Risk of Malignancy Index.

RMI = U x M x CA 125

U = Ultrasound score:

0 (if none present)

1 (if only one feature present)

3 (if 2 – 5 features present)

Ultrasound features :

- Multiple cysts
- Solid areas
- Bilateral lesions
- Ascites
- Metastases

M = 1 if premenopausal

M = 3 if postmenopausal

STAGING

Staging plays an important role in determining the future management of any ovarian carcinoma. It is done under General Anaesthesia. Vertical incision is suitable for staging. The incision should be of adequate size to allow exploration of the entire abdominal cavity and removal of ovarian massess intact where possible. Staging comprises of ascitic or peritoneal fluid sampling

systematic examination of abdominal contents, peritoneal surfaces retroperitoneal spaces, pelvic and para aortic lymph nodes and infracolic omentectomy .

PRIMARY CYTOREDUCTION

Primary cytoreduction includes cytology washings, TAH, BSO , infracolic omentectomy, tumour debulking, surgical staging and retroperitoneal node assessment.

OPTIMAL DEBULKING

Cytoreduction to tumour deposits of 1 cm or less is said to be optimal debulking

This approach is unique to ovarian cancer . It is not done in other intra abdominal solid tumours. Better survival in optimal debulking than those with residual disease is evident by many retrospective studies and meta analysis. 5.5 % improvement in median survival with every 10% improvement in the debulking rate was demonstrated by meta analysis off 7000 stage III/IV women with ovarian cancer.

ULTRA RADICAL SURGERY

There is evidence for improved outcome in operative management for advanced stage disease. But it is achieved only when all the macroscopic disease is completely removed. In advanced stage disease this is readily achievable in 22 - 25 % of cases . The Gynaec Oncology Group, GOG published the largest series to date. They used six control arms of different prospective randomized trials.

Cisplatin and paclitaxel chemotherapy was used. There were 1895 women with stage III ovarian cancer. 23 % were cytoreduced to no visible disease. Progression free survival was 33 months, 16.8 months, 14.,1 months and the overall survival was 71.9 months, 42.4 months, 35.0 months for those with no macroscopic residual disease, 0.1 to 1cm residual disease and greater than 1 cm residual disease respectively.

Similar trends are shown in stage IV disease. Winter et al reported on 366 patients in the control arms of 4 GOG studies. Intravenous cisplatin and paclitaxel were used. The maximal cytoreduction rate was 8 %. Those patients who were cytoreduced to no residual disease (progression free survival 20.1 months and

overall survival 64.1 months) achieved maximum benefit. Survival for patients with 0.1 to 1 cm residual disease had no difference when compared with 1 to 5 cm residual disease.

Studies claim that complete cytoreductive surgery is feasible. Cyto reductive surgery maximizes survival in patients with advanced disease. Their initial surgical cytoreduction rate was in excess of 80 %. This involves an ultra radical approach. It is a more aggressive upper abdominal surgery including splenectomy.

It includes cholecystectomy, partial pancreatectomy, radical stripping of the peritoneum and multiple bowel resections. post operative morbidity and mortality were increased operating time was longer. Their median survival however was 75.8 months for the stage III c disease .

LYMPHADENECTOMY

Overall survival advantage is not demonstrated by systematic lymphadenectomy. It is not indicated as a part of first line management.

A 12 year randomized control trial involving 13 centres with 427 patients and a long median (68.4 months) follow up examined the question of systematic lymphadenectomy. There was a modest improvement in progression free survival in the lymphadenectomy arm. But it had increased morbidity which rules out its use.

EARLY STAGE DISEASE, FIGO STAGE I AND II A EPITHELIAL OVARIAN CANCER

Early stage ovarian cancer occurs in less than 30% of women. Stage I cancer is relatively more frequent in women under 40 years. These women may wish to retain fertility. Standard management should involve TAH, BSO and assessment of the retroperitoneal nodes. In younger women with localised unilateral tumours (FIGO stage I) it is usual to simply remove the affected ovary. A thorough surgical staging is essential.

If the other ovary is abnormal, wedge biopsy should be done When the ovarian tumour is densely adherent to other pelvic or abdominal structure, then patient should be upstaged.

On the basis of the available evidence, when a woman wishes to retain her fertility risk of recurrence is not high if removal of a single abnormal ovary with careful examination of the entire abdominal cavity is done. Washings and omental biopsy are required for confirming stage .

The majority of ovarian cysts will be found to be benign. Up to 50 % of stage I ovarian cancer will have a normal CA 125 level. There is no evidence to justify routine lymphadenectomy.

STAGE IV DISEASE

There is survival advantage in a small number of women (6%) who could be completely debulked as per the GOG study on stage IV ovarian cancer. There was little advantage for those women with any residual disease.

However in young women with stage IV disease(cytology proven pleural effusion) surgical debulking should be considered, provided there is no organ dysfunction, disease is of small volume disease and with good performance status in the same way as FIGO stage III

disease. The other alternative will be NACT-S if a response was obtained with chemotherapy.

SECOND LOOK LAPAROTOMY OR LAPAROSCOPY

After the completion of first line chemotherapy if a laparotomy or laparoscopy is done with the aim of assessing disease status i.e., response to chemotherapy it is called as second look laparotomy or laparoscopy. There is no survival benefit for second look laparotomy as per available evidence.

In the routine management of women with ovarian cancer second look laparotomy has no place.

INTERVAL DEBULKING SURGERY

If initial maximal cytoreduction was not performed interval debulking should be considered in patients who are responding to chemotherapy or showing stable disease. It should be done as soon as possible once necessary cytoreduction has been achieved following the Goldie Coldman model. Usually 3 cycles of

chemotherapy are given followed by three more cycles of chemotherapy.

425 women were enrolled of in EORTC trial in whom 319 were subsequently randomized. If they had not been optimally debulked the women are eligible for the study (greater than 1 cm residual tumour deposit) . Those who responded after 3 cycles of chemotherapy were randomized to interval debulking surgery or no further surgery. All randomized women received 6 cycles of platinum based chemotherapy. They demonstrated 6 months median survival advantage.

A subsequent GOG RCT of 424 women showed that there was no difference in median survival.

The current standard is that in those cases where maximal cytoreduction was not performed, interval debulking should be considered. This is in patients who showed response to chemotherapy and in those showing stable disease. If the initial surgical debulking was performed by a person with expertise then interval debulking surgery is not recommended, even if only suboptimal debulking was done.

NEOADJUVANT CHEMOTHERAPY FOLLOWED BY SURGERY

Post operative mortality is 3.7% on average after primary cytoreductive surgery. It is more frequent for elderly women in whom extensive procedures has been done. The strategy of primary chemo therapy followed by surgery in potensially resectable cases is called as Neoadjuvant chemotherapy (NACT-S)

Comparison of NACT-S with the standard primary surgery followed by chemotherapy using platinum was done by the EORTC randomized trial 55971 . CHORUS study is a similar study. Interval debulking is no less effective than up front debulking is the inference of initial studies of 55971 .

It has also been said that it is less morbid and hence NACT-S should be more widely considered than previously. Current standard is For Those patients who are not fit for up frontsurgical debulking NACT-S should be offered . It should also be offered to those in whom optimal debulking is unlikely.

FIRST LINE CHEMOTHERAPY FOR EPITHELIAL OVARIAN CANCER

EARLY STAGE DISEASE

Surgery alone is adequate for the FIGO stage IA, IB of epithelial ovarian malignancy in which tumour was well differentiated i.e grade 1. Also the histopathology should be non clear cell. Optimal staging should have been done for the patient.

The role of adjuvant chemotherapy and its survival advantage has been confirmed by ICON 1 (International Collaborative Ovarian Neoplasm) and also by the ACTION (Adjuvant Chemo Therapy in Ovarian Neoplasm) , with an 8 % survival advantage at 6 years.

An overall hazard ratio of 0.72 is give by the Cochrane review in favour of chemotherapy. Adjuvant chemotherapy is required in poorly differentiated FIGO Ia and Ib and histopathology of clear cell type.

Dense adhesions if present they are significant it upstages the disease and adjuvant chemotherapy is indicated. Optimal surgery and adjuvant chemotherapy is required in all stages of I C and II A.

ADVANCED DISEASE

In stage Ic- IIIc of epithelial ovarian cancer the recommended standard primary chemotherapy is carboplatin and paclitaxel for 6 cycles. This is based on two trials GOG III and OV 10. NIH and NICE advises monotherapy i.e., use of single drug either cisplatin or carboplatin.

INTRAPERITONEAL CHEMOTHERAPY

There are studies which compared intravenous chemotherapy with intraperitoneal chemotherapy and they have shown improved survival in patients who are of stage III ovarian cancer and are optimally debulked. There are problems like catheter related morbidity. There are also problems like pain and bowel obstruction. Further trials are awaited.

NOVEL CHEMOTHERAPEUTIC AND BIOLOGICAL AGENTS

Hormonal therapies, antiangiogenic drugs and growth factor inhibitors are the novel chemotherapeutic agents where research is going on. Their main advantage is that they have minimal adverse effects. Bevacizumab is a vascular endothelial growth factor inhibitor. In multiple phase II studies it has demonstrated significant clinical activity.

MATERIALS AND METHODS

MATERIALS AND METHODS

An analytical study of the patients who underwent treatment for epithelian ovarian carcinoma in Medical Oncology Department , IOG Egmore from June 2012 to December was conducted. Patients were examined for demographic details, presenting symptoms, diagnostic modalities laboratory values, surgical procedures and pathological features, Data was entered in to a standard proforma and analyzed. Test of significance was done with pearson Chi square test.

The study included a population of 89 patients in whom a diagnosis of epithelial ovarian malignancy was diagnosed with histopathology or ascitic fluid analysis confirmation of epithelial ovarian malignancy .

INCLUSION CRITERIA:

1. Women who presented with clinical features , imaging features and histopathological findings suggestive of epithelial ovarian carcinoma registered in medical oncology department, IOG from January 2012 to June 2013 were included in the study.

EXCLUSION CRITERIA:

1. Ovarian carcinomas other than epithelial ovarian carcinoma

2. Recurrent epithelial ovarian carcinoma.

Ovarian carcinomas other than epithelial carcinoma were excluded from the study because epithelial ovarian malignancy is a separate entity in malignant ovarian tumour and the aim of the study is to analyse the epithelial ovarian carcinoma.

CA 125 the tumour of epithelial ovarian malignancy is secreted by the surface epithelial cells of the ovary from where epithelial ovarian malignancy arises. If malignancies other than ovarian malignancy is included in the study then it will interfere with the comparison of CA 125 and epithelial ovarian malignancy.

Patients who were previously dignosed as epithelial ovarian carcinoma underwent treatment for the same and has come with recurrence are not included in the study.

Factors like age, parity, family history, presenting features were analysed. Use of CA 125 as a diagnostic modality in epithelial

ovarian malignancy was analysed. The association of CA 125 with the stage of the epithelial ovarian malignancy was analysed. Test of significance used was pearson Chi square test. The association of CA 125 with the type of epithelial ovarian malignancy was tested with Chi square test.

STATISTICAL ANALYSIS

Pearsons Chi square test was used for analysis of data

OBSERVATIONAL

ANALYSIS

TABLE 1 : DISTRIBUTION OF AGE INTERVAL

AGE INTERVAL	NO. OF PATIENTS	PERCENTAGE
21 to 30	8	9.0
31 to 40	10	11.2
41 to 50	31	34.8
51 to 60	25	28.1
61 to 70	11	12.4
71 to 80	4	4.5
Total	**89**	**100.0**

* The study included 89 Patients. Peak incidence occurred at 41 -50 years.

Mean age is 50 years.

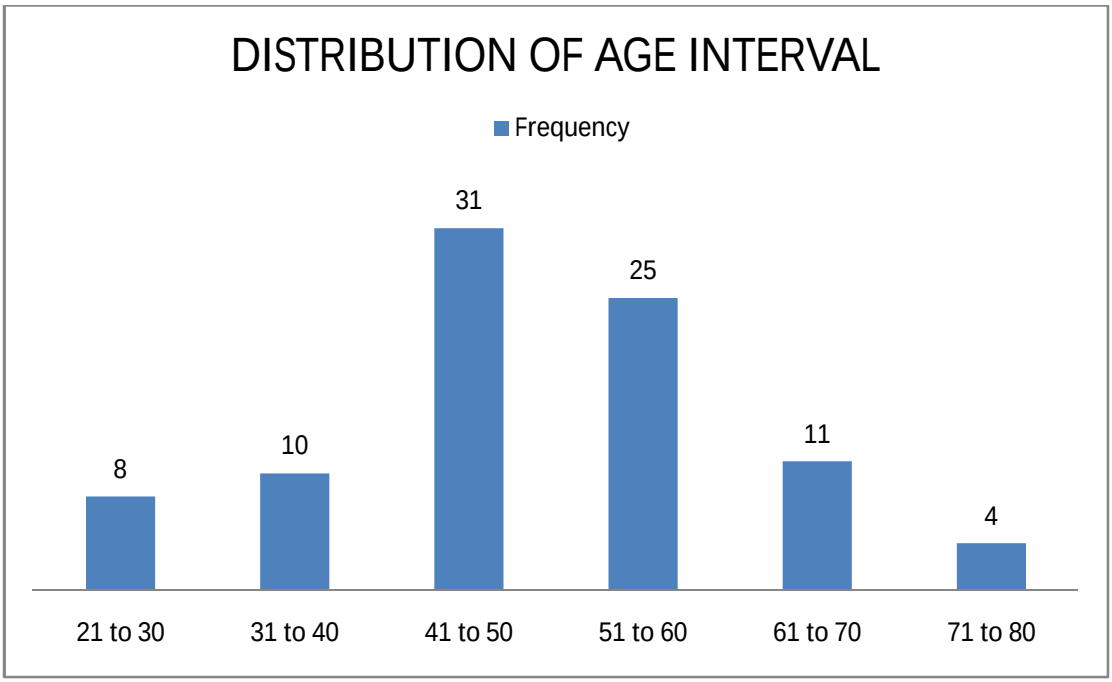


TABLE 2: DISTRIBUTION OF PLACE

PLACE	FREQUENCY	PERCENT
Chennai	45	50.6
Places around Chennai	32	36.0
Other place of TN	9	10.1
Other States	3	3.4
Total	**89**	**100.0**

* 86.6% of the patients are from places in and around Chennai. 10% are from other places of Tamil Nadu. 3.4% are from other states.

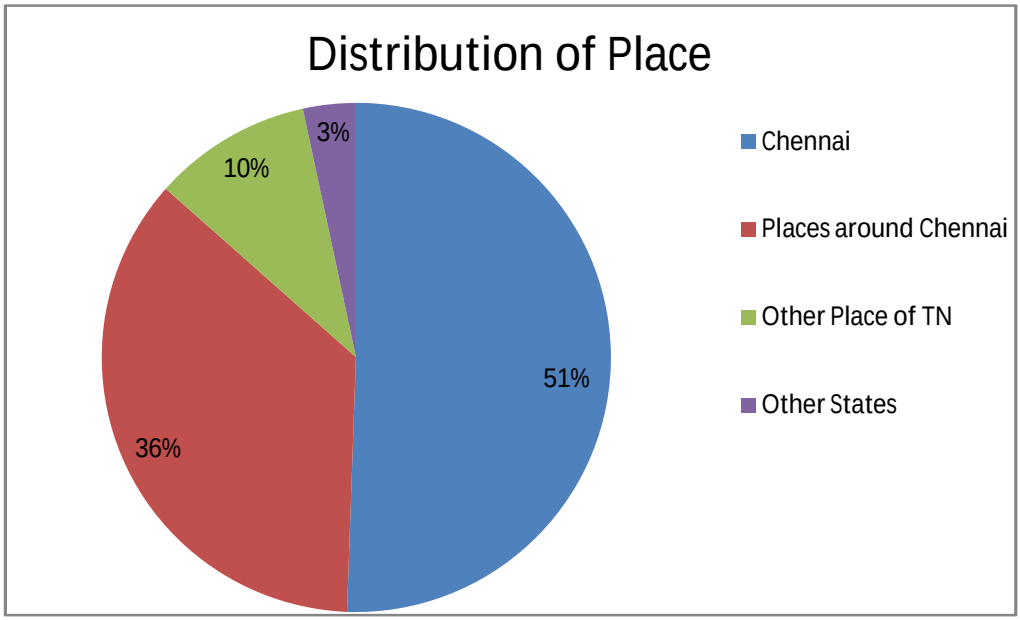


TABLE 3: PARITY

Parity	No. of patients	Percent
Nullipara	10	11.2
Para 1	7	7.9
Para 2	30	33.7
Para 3	21	23.6
Para 4	12	13.5
Para 5	6	6.7
Para 6	2	2.2
Para 7	1	1.1
Total	**89**	**100.0**

* 11.2% are nulliparous . 88.8% are parous women

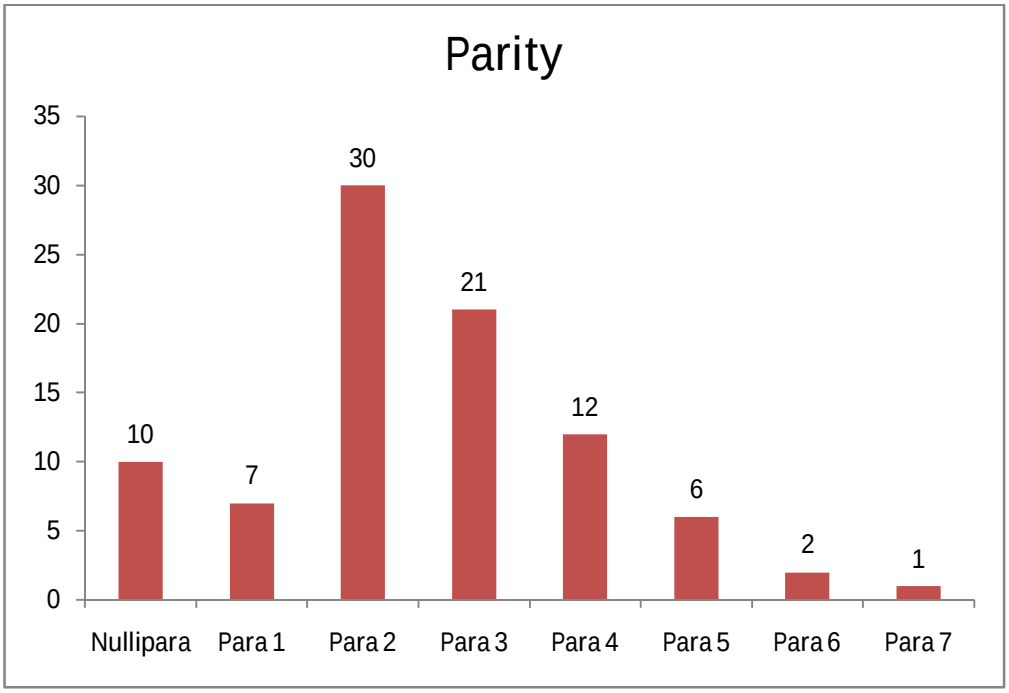


TABLE 4: SURGERY/ ASCITIC FLUID ANALYSIS

Surgery	Frequency	Percent
Ovariotomy	6	6.7
TAH USO	2	2.2
TAH BSO	5	5.6
TAH BSO Omental Biopsy	17	19.1
TAH BSO Infra colic omentectomy	23	25.8
Ascitic Fluid Analysis	28	31.5
Open and Close Biopsy	4	4.5
TAH BSO Omentectomy with LN	1	1.1
Subtotal hysterectomy BSO Omental Biopsy	3	3.4
Total	**89**	**100.0**

* Omentectomy was done in 26.9% of cases .

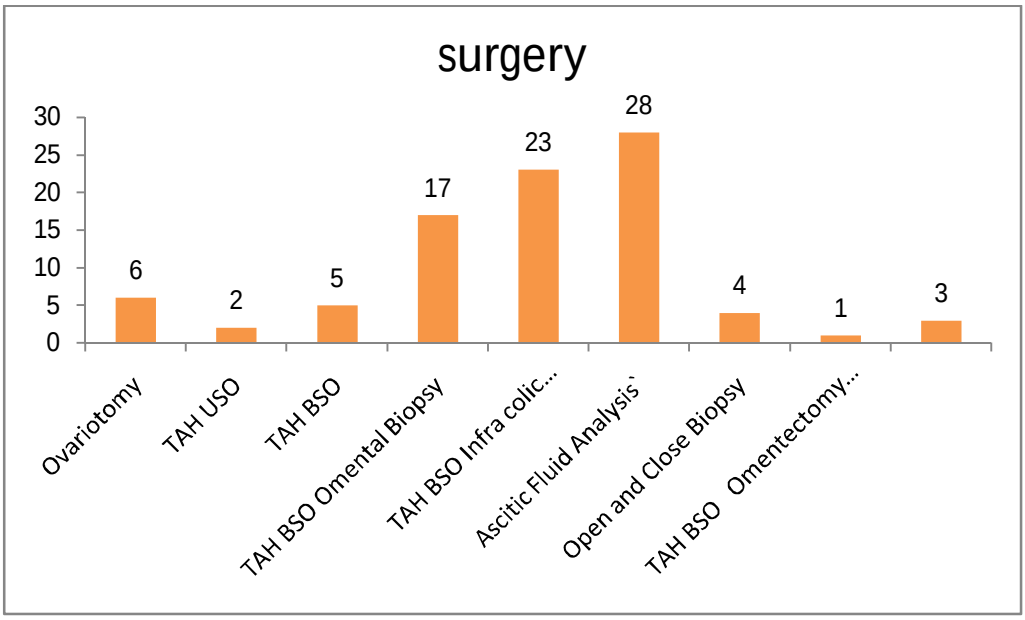


TABLE 5: STAGE OF OVARIAN CANCER

Stage	Frequency	Percent
Borderline, IA, IB	10	11.2
IC, II	11	12.4
III	56	62.9
IV	12	13.5
Total	**89**	**100.0**

* 11.2% of the cases are borderline, 1A & IB 76.4% Presented in stage III & IV.

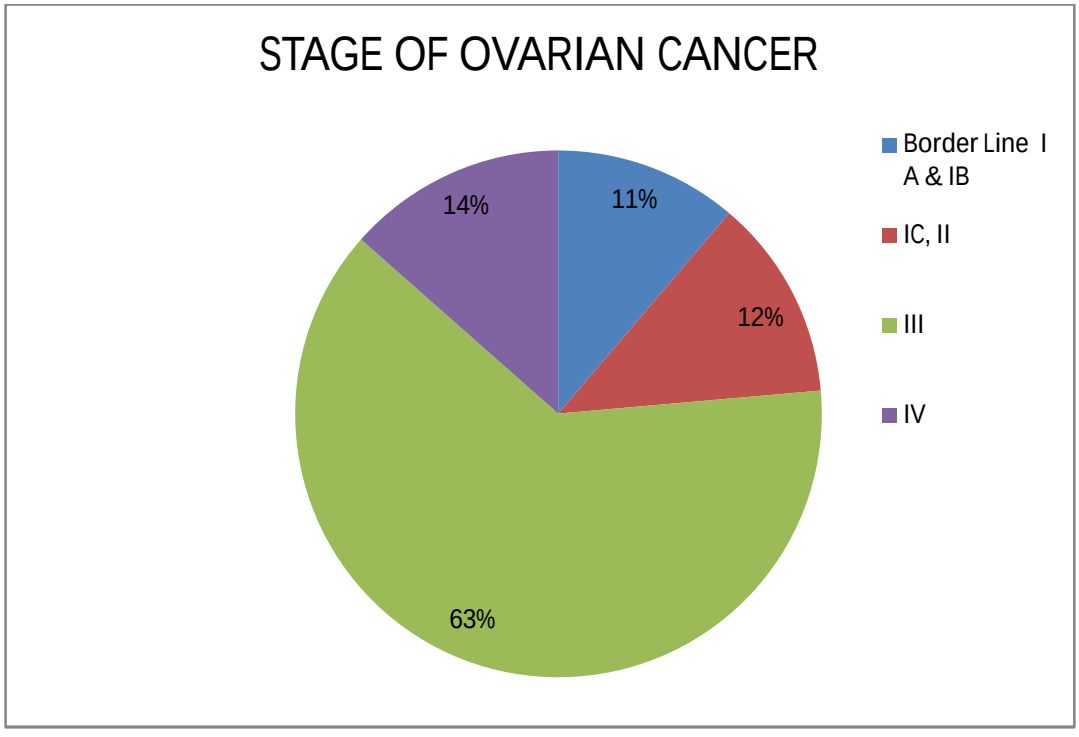


TABLE 6: CHEMOTHERAPY

Chemotherapy	Frequency	Percent
NACT	5	5.6
Adjuvant	33	37.1
Palliative	21	23.6
NACT -S	4	4.5
Not Given	26	29.2
Total	**89**	**100.0**

* NACT was given in 10.1% cases 37.1% were given adjuvant chemotherapy. 23.6% of patients were given palliative chemotherapy

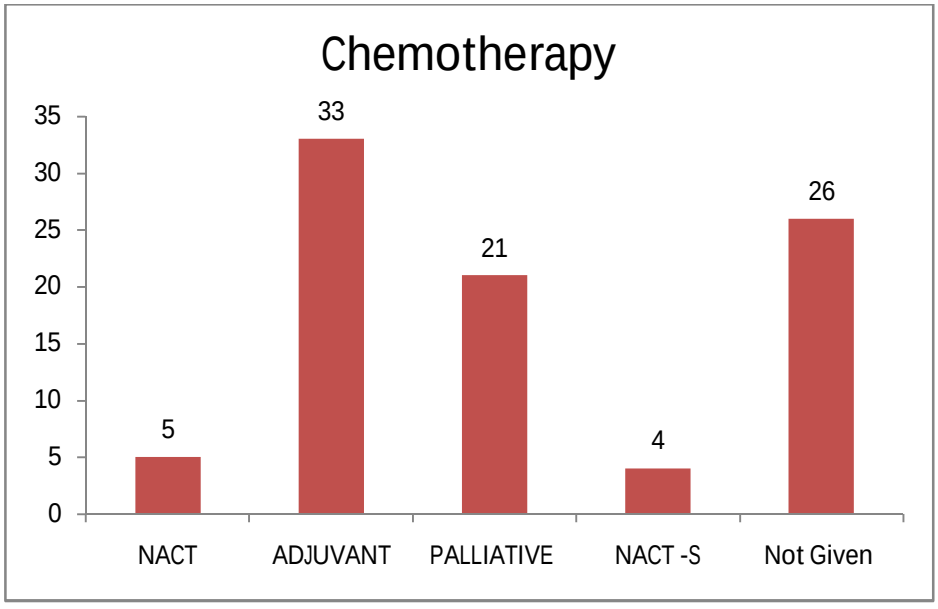


TABLE 7: ONLY SURGERY

Only Surgery	Frequency	Percent
Only Surgery	9	10.1
Others	80	89.9
Total	**89**	**100.0**

* Only surgery was done in 10 % patients.

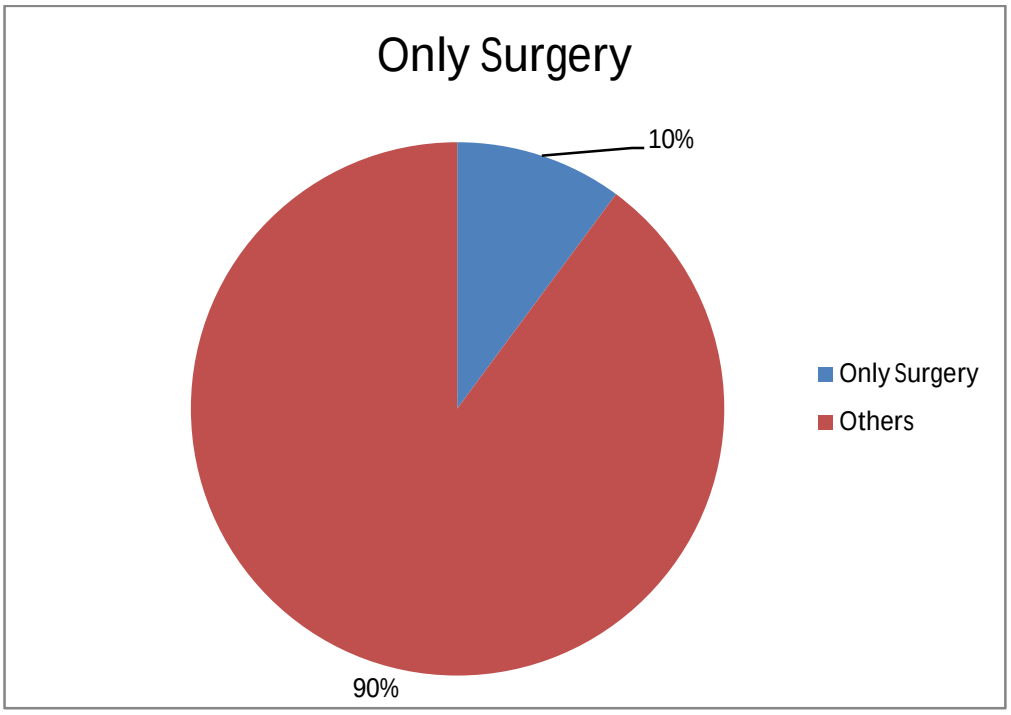


TABLE 8: FAMILY HISTORY

Family_h/o	Frequency	Percent
Absent	88	98.9
Present	1	1.1
Total	**89**	**100.0**

* Most of the cases were sporadic. Family history was present in only 1.1%

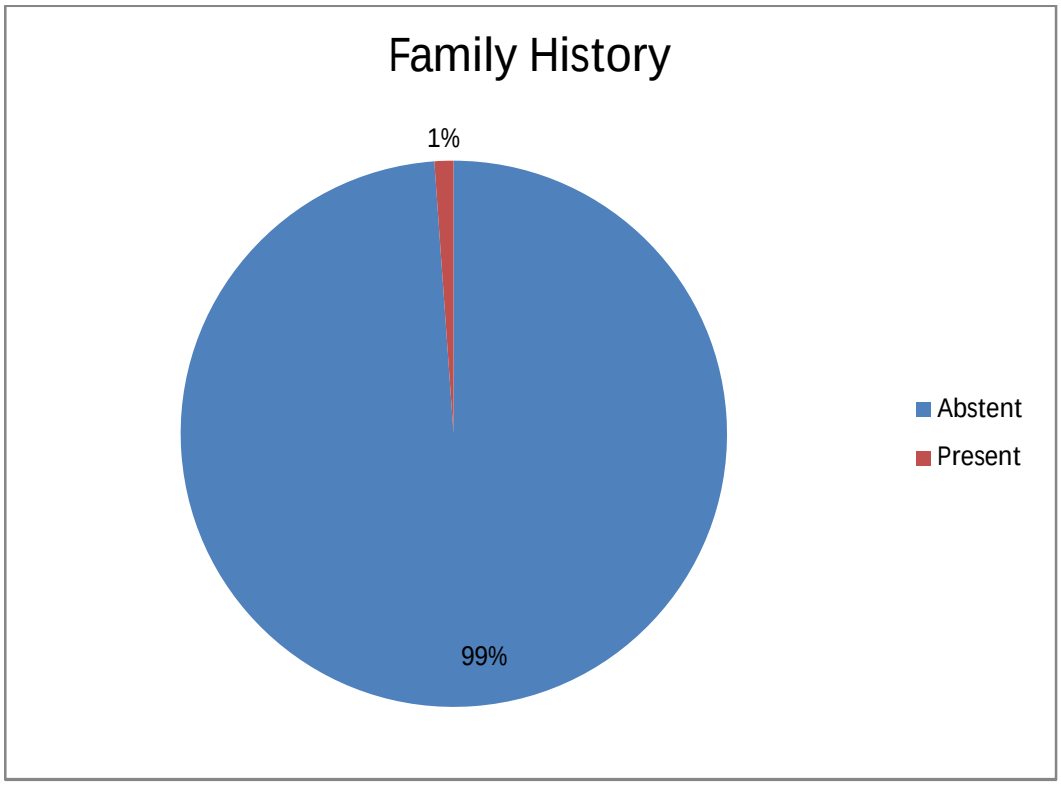


TABLE 9: SERUM CA 125

CA 125	Frequency	Percent
> 35 U/mL	71	79.8
< 35 U/mL	18	20.2
Total	**89**	**100.0**

* Serum CA 125 levels were raised in 79.8% of cases. In 20.2% the levels were decreased

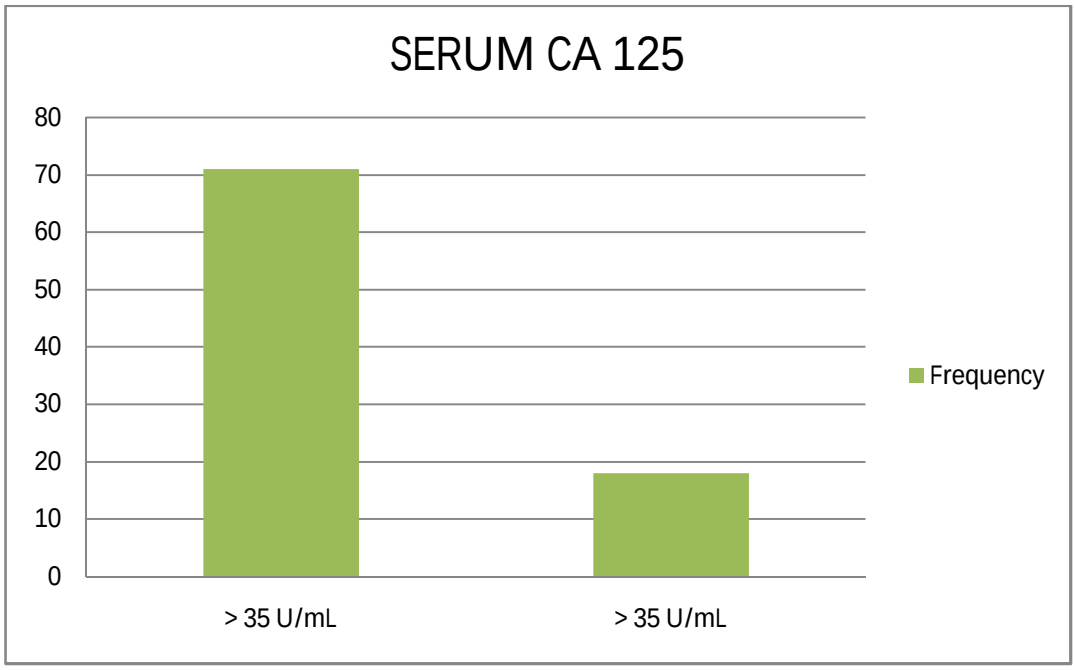


TABLE 10: HPE

HPE	Frequency	Percent
Serous	41	46.1
Mucinous	12	13.5
Endometriod	16	18.0
Clear Cell	3	3.4
Unclassified	17	19.1
Total	**89**	**100.0**

* 46.1 % of cases were serous. 18% were endometrioid. 13.5% cases were mucinous. 3.4 % were clear cell carcinoma.

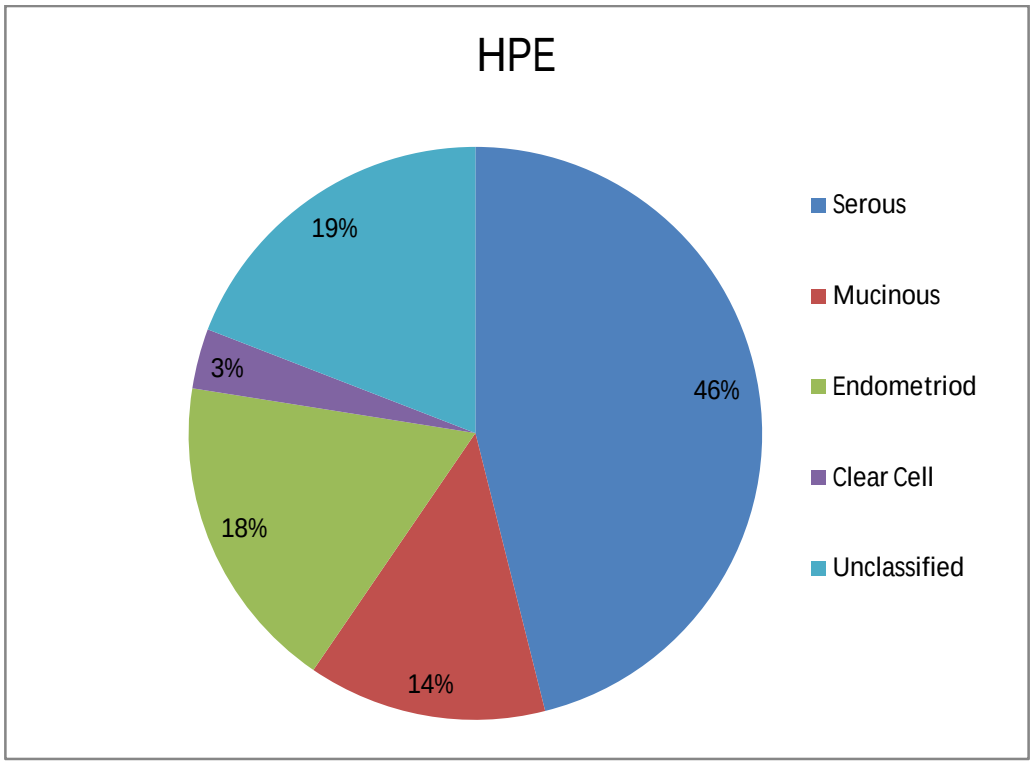


TABLE 11: DISTENSION

DISTENSION	Frequency	Percent
Present	56	62.9
Absent	33	37.1
Total	89	100.0

* 62.9 % patients presented with distension.

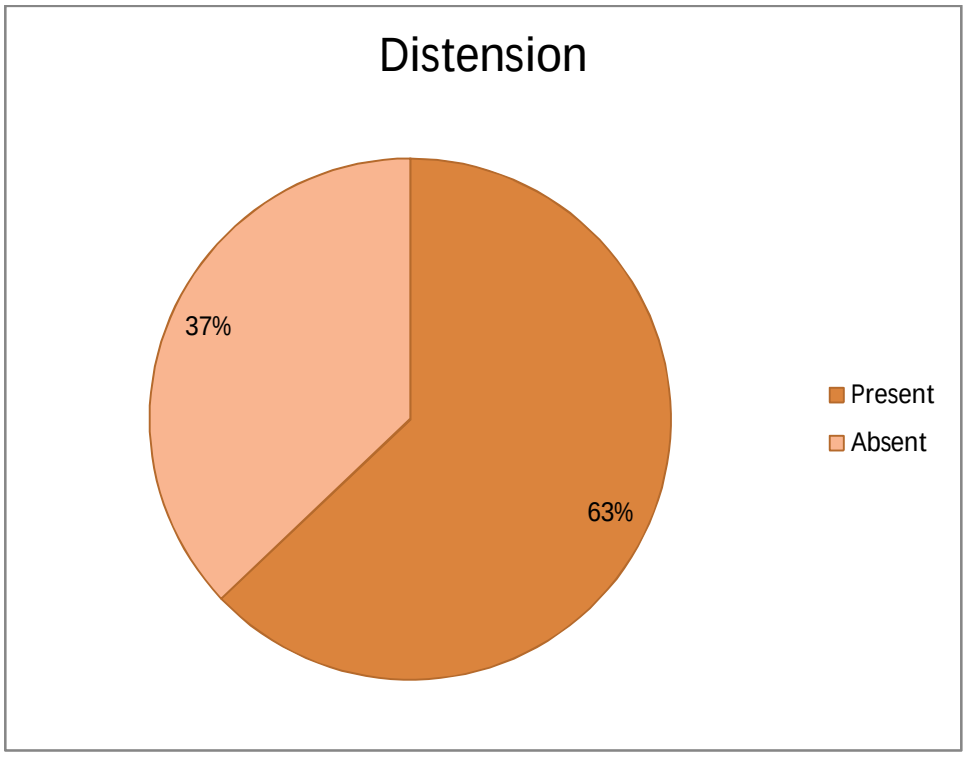


TABLE 12: PAIN

PAIN	Frequency	Percent
Present	61	68.5
Absent	28	31.5
Total	89	100.0

* 68.5 % patients presented with pain in abdomen or pelvis.

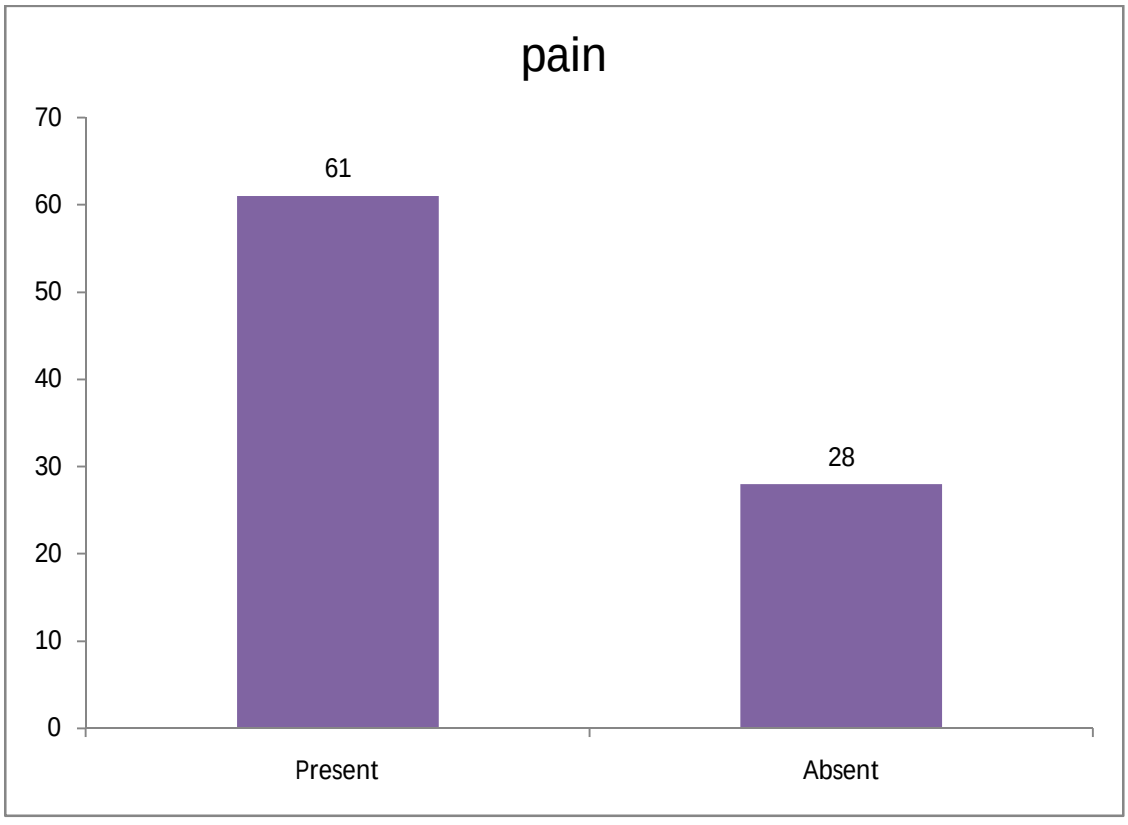


TABLE 13: MASS

MASS	Frequency	Percent
Absent	7	7.9
Total	89	100.0

* 7.9% of patients presented with mass abdomen.

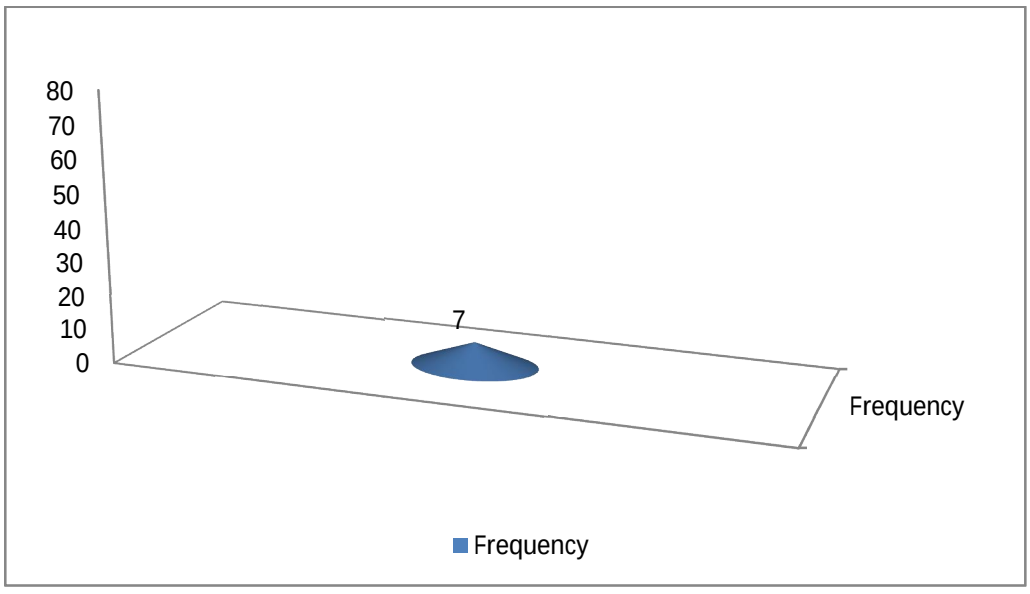


TABLE 14: DYSPEPSIA

DYSPEPSIA	Frequency
Dyspepsia Present	14
Absent	75
Total	**89**

* 16% patients presented with dyspepsia.

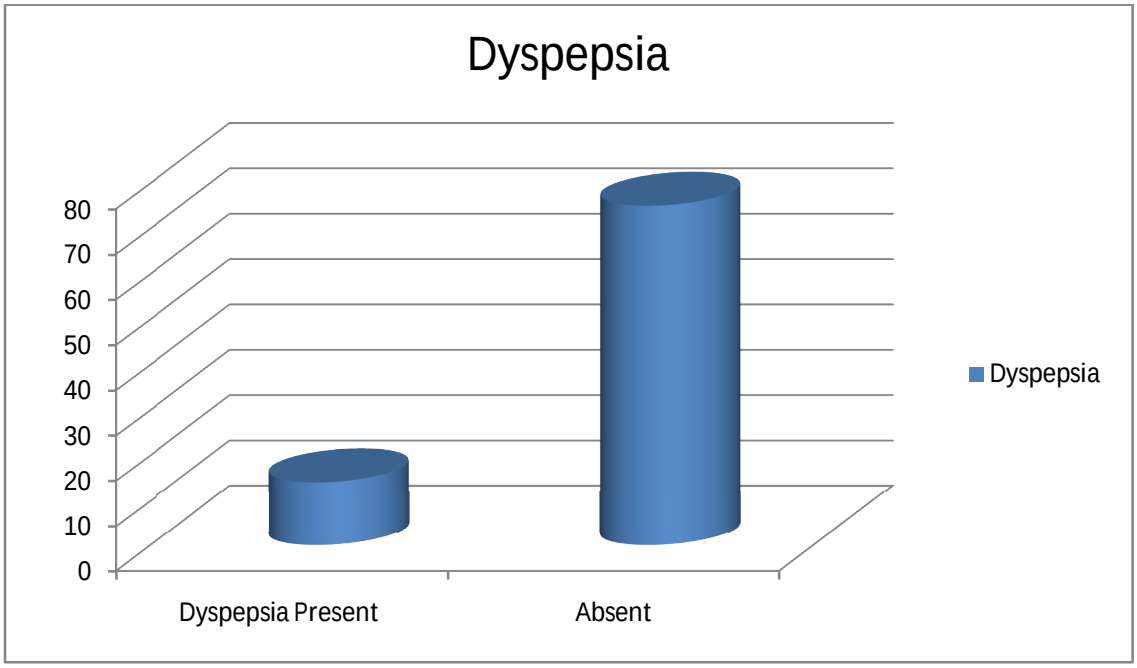


TABLE 15: LOSS OF APPETITE

LOA	Frequency	Percent
Loss of Appetite	33	37.1
Absent	56	62.9
Total	89	100.0

* 37.1 % of patients presented with loss of appetite.

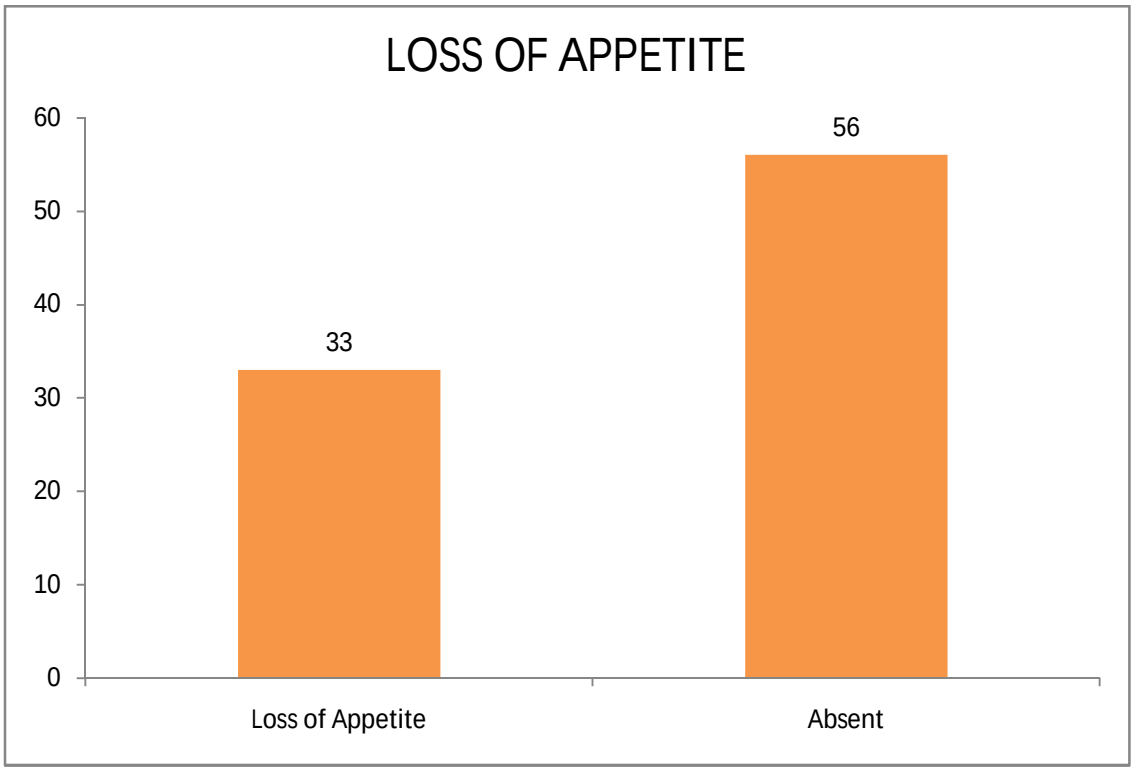


TABLE 16: LOSS OF WEIGHT

LOW	Frequency	Percent
Loss of Weight	20	22.5
Absent	69	77.5
Total	89	100.0

* 22% of patients presented with loss of weight.

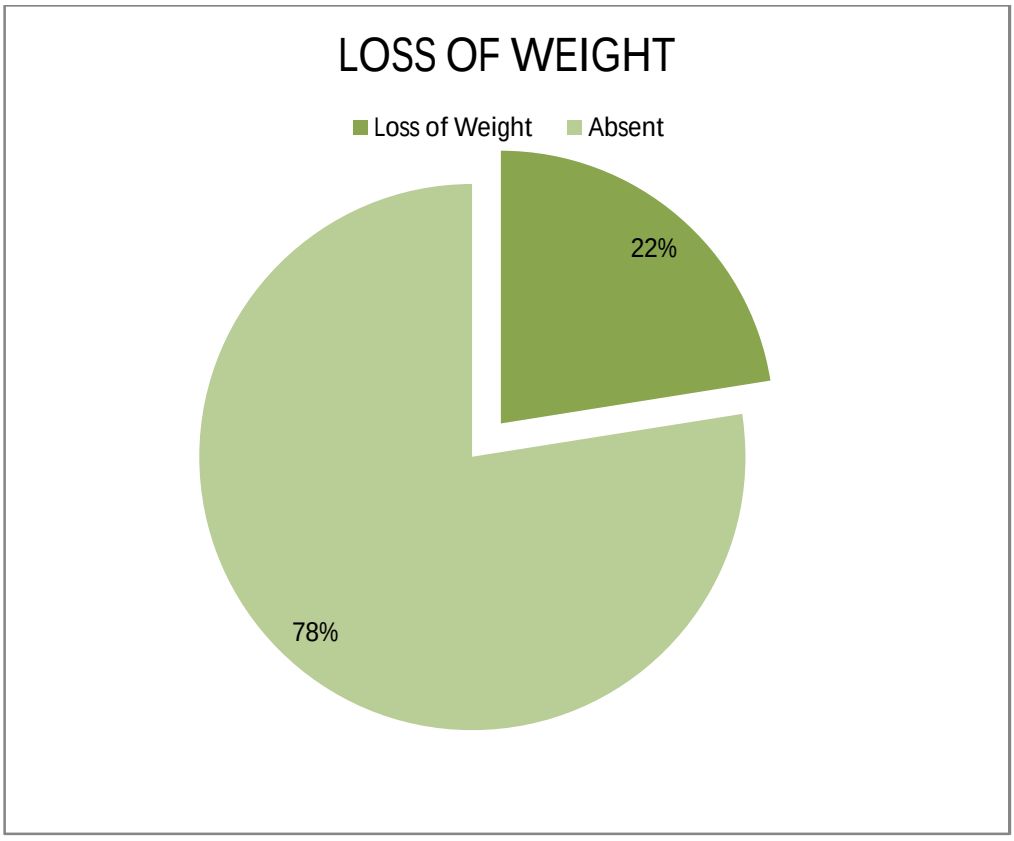


TABLE 17: ASYMPTOMATIC

ASYMPTOMATIC	Frequency	Percent
Asymptomatic	1	1.1
Symptomatic	88	98.9
Total	**89**	**100.0**

* Disease was asymptomatic in 1.1%

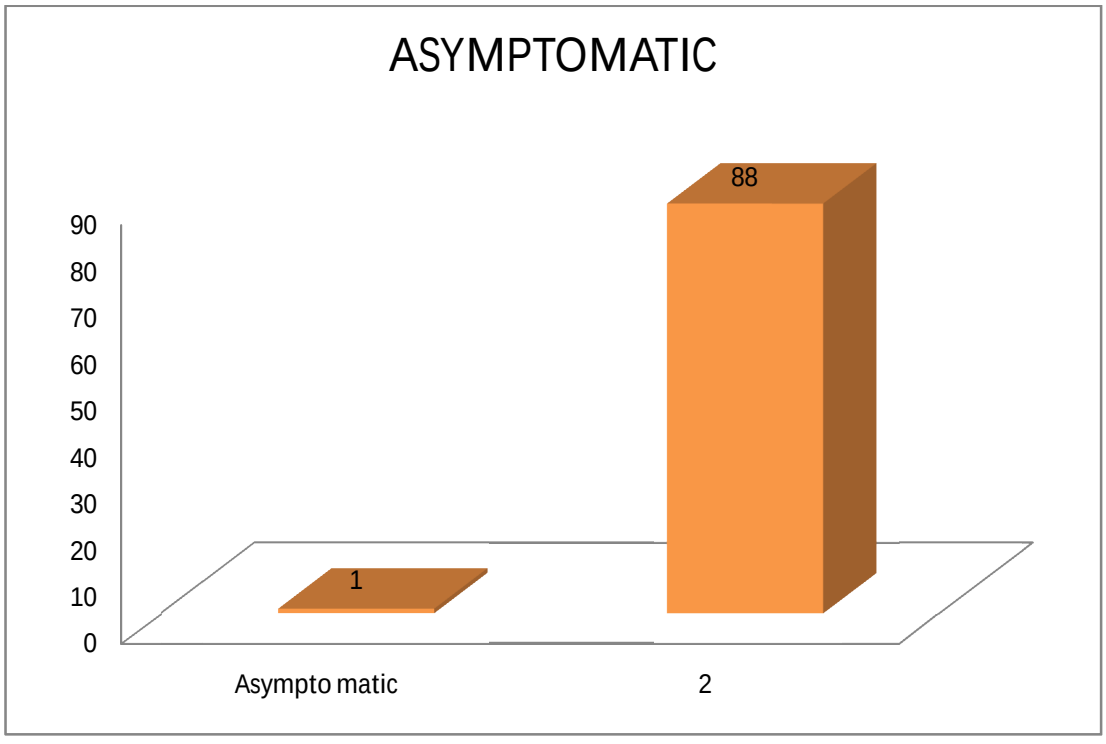


TABLE 18: PRESSURE SYMPTOMS

PRESSURE SYMPTOMS	Frequency	Percent
Pressure Symptoms	10	11.2
Absent	79	88.8
Total	**89**	**100.0**

* 11.2 % of patients presented with pressure symptoms like increasedfrequency of micturition and breathlessness.

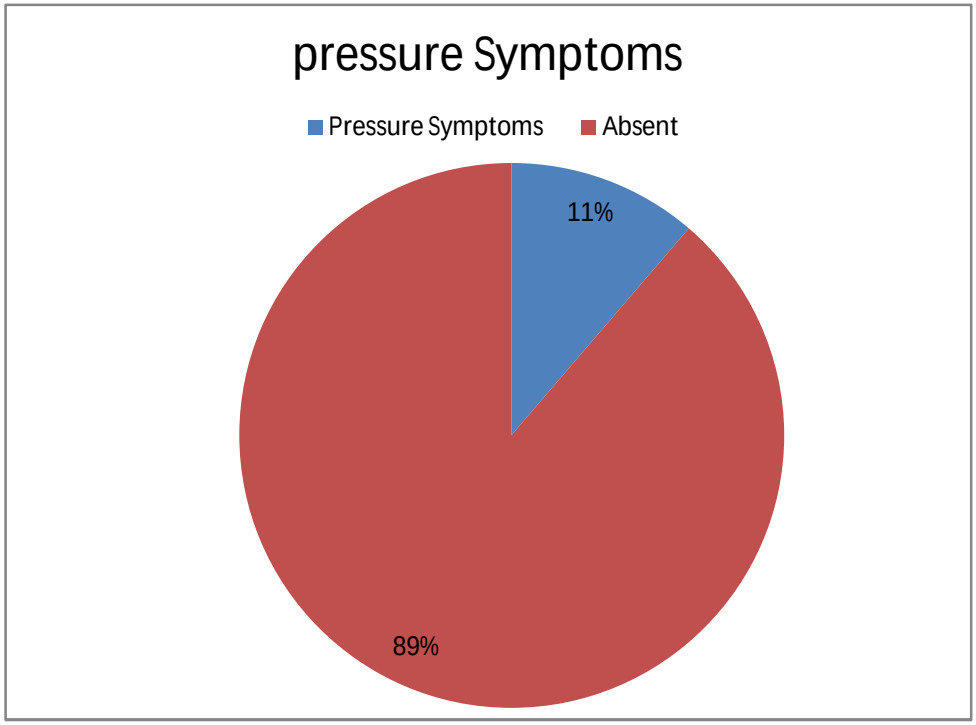
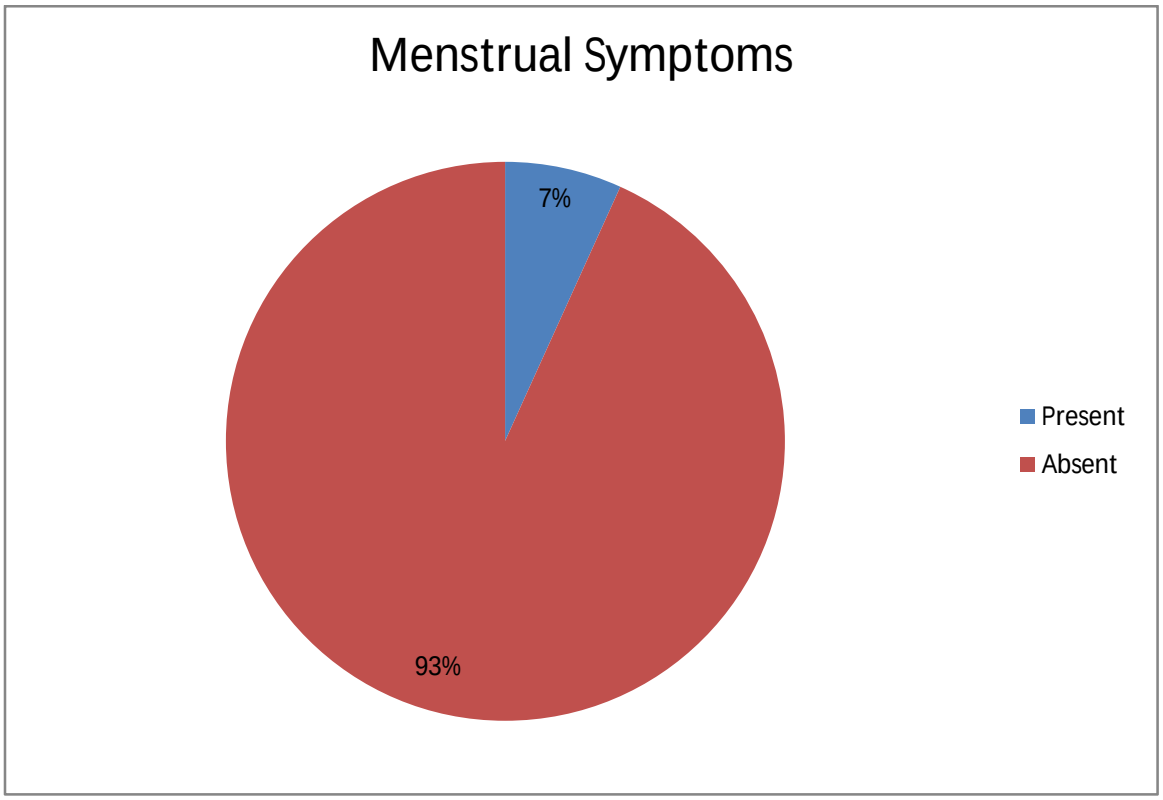


TABLE 19: MENSTRUAL SYMPTOMS

MENSTRUAL SYMPTOMS	Frequency	Percent
Present	6	6.7
Absent	83	93.3
Total	**89**	**100.0**

* 6.7 % presented with menstual symptoms.



Stage and Chemotherapy

		Chemotherapy					Total
		NACT	Adjuvant	Palliative	NACT –S	Not given	
Stage	Borderline, I A & IB	0	1	0	0	9	10
	IC, II	0	7	0	0	4	11
	III	4	24	15	3	10	56
	IV	1	1	6	1	3	12
Total		5	33	21	4	26	89

70% of women with stage IC and higher were given chemotherapy.

50% of chemotherapy was adjuvant chemotherapy.

TEST OF ASSOCIATION – CHI SQUARE TEST

Stage and Age comparision

Age in Years	age interval						Total
	21-30	31-40	41-50	51-60	61-70	71-80	
Borderline, I A & IB	3	1	3	1	2	0	10
IC, II	2	1	4	2	1	1	11
III	3	6	19	19	6	3	56
IV	0	2	5	3	2	0	12
Total	8	10	31	25	11	4	89

In women below 40 years 40% of the tumours were borderline, stage I A and stage I B. 60% were of I C and above. In women above 40 years 82 % were I C and above.

TEST OF ASSOCIATION – CHI SQUARE TEST

Stage and CA125 association				
		CA_125		Total
		>35U/mL	<35U/mL	
Stage	Borderline,Ia, Ib	4	6	10
	IC , II	8	3	11
	III	47	9	56
	IV	12	0	12
Total		**71**	**18**	**89**

Serum CA 125 level were raised in 40% of borderline, stage IA and IB.

Serum CA 125 level were raised in 84 % of late stage disease.

There is significant association between CA 125 and stage of the disease. P value 0.003

CA 125 and Histopathology

		HPE					Total
		serous	**mucinous**	**Endo metroid**	**Clear cell**	**Un classified**	
CA 125	**> 35**	35	2	14	3	17	71
	< 35	6	10	2	0	0	18
Total		**41**	**12**	**16**	**3**	**17**	**89**

Serum CA 125 levels were normal in 84 % of mucinous carcinoma.

Serum CA 125 levels were raised in 86 % of epithelial malignancy other than mucinous carcinoma.

There is significant (<0.05) association between CA 125 and histopathology of epithelial ovarian carcinoma. P=0.000

DISCUSSION

DISCUSSION

- Our Study involved 89 patients with epithelial ovarian cancer. The peak incidence of epithelial ovarian cancer in our study was between 41 to 50 years. Mean age is 50 years.

- Minimum age at which epithelial ovarian carcinoma occurred in our study was at 22 years.

- Maximum age at which epithelial ovarian carcinoma occurred in our study was at 80 years.

- 86.6% of the places were from in and around Chennai. 10 % are from other places of Tamilnadu. 3.4 % are from other states.

- Most of the cases were sporadic

- Incidence of ovarian malignancy in nulliparous women in our study was 11.2% where as 88.8% occurred in multiparous women. But in published studies the incidence is more in nulliparous women.

- 62.9% of Patients presented with distention. 68.5 % presented with pain in abdomen or pelvis. 7.9% presented with mass abdomen.

37.1% complained of loss of appetite. 16% had dyspepsia. Loss of weight was present in 22.5%. 1.1% was asymptomatic . 11% had pressure symptoms like increased frequency of micturition or breathlessness . 6.7 % presented with menstrual symptoms.

- Published series in epithelial ovarian malignancy also says that the ussaual symptom are vague abdominal symptoms and and pressure symptoms involving bladder.

- 11.2% of cases were borderline IA and 1B. grade 1. 88.8% were of IC and higher stage which need adjuvant chemotherapy . This is in accordance with the other studies in epithelial ovarian malignancy.The malignancy usually presents at later stages.

- Serum CA 125 levels were normal in 20.2% of cases. In 79.8% CA 125 level was raised. CA 125 level were normal in 84% of mucinous carcinoma. In 86% of other types CA 125 level were raised. There is significant association between CA 125 and histopathology of epithelial ovarian carcinoma. P=0.000

- Serum CA 125 level was raised in only 40% of patients with borderline, stage IA and I B . Serum CA 125 level was raised in 84

% of patients with stage I C and above.There was significant association between serum 125 level and stage of the disease. P=0.003

- Serous carcinoma occurred in 46.1% cases.

- Endometrioid carcinoma occurred in 18.0% cases.

- Mucinous carcinoma in 13.5% cases. 3.4 % were clear cell carcinoma.

- Only surgery was done in 10 % cases. They were early stage disease. Omentectomy was done in 26.9% of cases. Subtotal hysterectomy was done in 3.4% of cases.

- NACT was given in 10.1% cases 37.1% were given adjuvant chemotherapy. 23.6% of patients were given palliative chemotherapy. 6 cases of NACT was followed up. All showed reduction in size of the tumour. Further larger studies are needed to commit on this

- 70% of women with stage IC and higher were given chemotherapy. Out of the total number of chemotherapy, 50% of chemotherapy was adjuvant chemotherapy.

SUMMARY

SUMMARY

- 89 women with epithelial ovarian carcinoma were selected for the study.

- Recurrent cases of epithelial ovarian malignancy were excluded.

- 62.9% of patients were between 41 and 60 years. Maximum number of patients were between 41 and 50 years. Mean age of occurrence of epithelial ovarian malignancy in our study was 50 years.

- Minimum age at which epithelial ovarian carcinoma occurred in our study was at 22 years.

- Presenting complaints of the patients were collected

- Serum CA 125 level at presentation was collected

- Type of carcinoma was evaluated by either histopathological examination or ascitic fluid analysis

- Type of surgery and chemotherapy given was analysed.

- Association between serum CA 125 and histopathology was tested by pearson Chi square test. There was significant association between CA 125 and histopathology. In mucinous carcinoma CA 125 levels were low

- Association between serum CA 125 and stage of the disease was tested by pearson Chi square test. There was significant association between CA 125 and stage of the disease.

CONCLUSION

CONCLUSION

Mean age of occurrence of epithelial ovarian carcinoma in our study was 50 years.

Epithelial ovarian malignancy is more common in our population in multiparous women.

Epithelial ovarian malignancy is sporadic in most of the cases.

Most of the cases of epithelial ovarian malignancy present with distension and vague gastrointestinal and pressure symptoms like increased frequency of micturition.

Serum CA 125 is a useful diagnostic modality in women presenting with these symptom.

Adjuvant chemotherapy is the most common mode of chemotherapy.

ANNEXURE

BIBLIOGRAPHY

BIBLIOGRAPHY

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PROFORMA

PROFORMA

Introduction

- Name of patient wcc no:
- Age of patient
- occupation

Presenting Complaint

History of Presenting Complaint **Duration**

- Abdominal distension
- Feeling of a lump in the abdomen
- Abdominal pain
- Dyspepsia
- Bloating
- Early satiety
- Abdominal discomfort
- Loss of appetite
- Loss of weight

- Urinary frequency
- Urinary retention
- Constipation
- Abnormal uterine bleeding

Pelvic pain

- If pain is involved ascertain site, radiation (if any) and character
- Onset
- Periodicity
- Duration
- Recurrence?
- Aggravating & relieving factors
- Severity
- Previous sexually transmitted infections
- Dyspareunia - deep or superficial

Change in bladder habits

- Pain during urination
- urinary frequency
- Urinary retention
- Blood in the urine

Change in bowel habit

- Constipation.
- Difficulty in bowel movement
- Blood in the stool
- Weight loss
- Loss of appetite **Menstrual History**
- Age at menarche and menopause
- 1st day of last menstrual period
- Length of bleeding (days)
- Frequency
- Regularity

- Bleeding between periods
- Bleeding after intercourse
- post menopausal bleeding

Past Gynecological History

- Gynecological diagnoses
- Gynecological surgery
- Date & result of cervical smears
- Contraception **Past Obstetric History**
- Gravidity and Parity
- Normal Delivery/caesarean
- Any terminations
- Any miscarriages
- Any ectopic pregnancies

Drug History

- Hormone replacement therapy
- Use ovulation induction

- Oral contraceptive pills
- Any known drug allergies .

Past Medical History

- Past operations
- Diabetes
- Hypertension
- Other medical conditions
- Current or past illnesses
- Hospital admissions
- Past surgeries

Family History

- Family history of hypertension, diabetes
- Family history of breast cancer / ovarian cancer /endometrial cancer/ colon cancer/ other gynaecological cancers

Personal History

- estrogen replacement therapy
- smoking
- alcohol

Pap Smear History

- When last smear
- Always normal?
- Any previous problems
- Ever had a colposcopy?

General Examination:

- **Ht**
- **Wt**
- BSA
- BMI

- Pulse
- Blood Pressure
- Respiratory Rate
- Temperature
- Anemia
- Cyanosis
- Jaundice

Systemic examination:

CVS: RS:

CNS:

ABD:

PER VAGINAL EXAMINATION:

Investigations

- Complete blood count: N/ABN
- Blood chemistry tests
- LFT: N/ABN
- Pap smear
- Endometrial biopsy in case of AUB
- Endoscopy
- Cystoscopy
- Colonoscopy
- Chest x-ray
- Ultrasound
- Computed tomography (CT) scan/ MRI
- Tumour markers

DIAGNOSIS:

TREATMENT

Surgery

- Staging laparotomy Done/Not Done
- Total abdominal hysterectomy, bilateral salpingo oopherectomy, infracolic omentectomy, ascitic fluidcytology, peritoneal nodule sampling, lymphnode sampling
- Adjuvant chemotherapy
- Neoadjuvant chemotherapy

Histopatologic examination:

- Serous
- Mucinous
- Endometroid
- Clear cell
- Brennar
- Mixed epithelial
- Undifferentiated

- Unclassifie
- Grade of carcinoma: I II II
- Unilateral/Bilateral

Follow up:

- Complaints
- Systemic examination
- Per Abd examination
- Per Vaginal examination
- CBC
- CA 125
- Ultrasound

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI-3

EC Reg No.ECR/270/Inst./TN/2013
Telephone No : 044 25305301
Fax : 044 25363970

CERTIFICATE OF APPROVAL

To
Dr. A. Sridevi,
PG in MS Obstetrics & Gynaecology,
Institute of Obstetrics & Gynaecology,
Madras Medical College, Chennai-3.

Dear Dr. A. Sridevi,

The Institutional Ethics Committee of Madras Medical College, reviewed and discussed your application for approval of the proposal entitled **"Clinicopathological analysis of Epithelial Ovarian Carcinoma"** No.26102013

The following members of Ethics Committee were present in the meeting held on 08.10.2013 conducted at Madras Medical College, Chennai-3.

1. Dr. G. Sivakumar, MS FICS FAIS	-- Chairperson
2. Prof. R. Nandini, MD Director, Instt. of Pharmacology, MMC, Ch-3	-- Member Secretary
3. Prof. Ramadevi, Director i/c, Instt. of Biochemistry, Chennai.	-- Member
4. Prof. P. Karkuzhali, MD Prof. Instt. of Pathology, MMC, Ch-3	-- Member
5. Prof. Kalai Selvi, MD Prof. of Pharmacology, MMC, Ch-3	-- Member
6. Thiru. S. Govindasamy, BABL	-- Lawyer
7. Tmt. Arnold Saulina, MA MSW	-- Social Scientist

We approve the proposal to be conducted in its presented form.

Sd/Chairman & Other Members

The Institutional Ethics Committee expects to be informed about the progress of the study, and SAE occurring in the course of the study, any changes in the protocol and patients information / informed consent and asks to be provided a copy of the final report.

R Nandini

Member Secretary, Ethics Committee

VICE PRINCIPAL
MADRAS MEDICAL COLLEGE
CHENNAI-3.

CONSENT FORMS

INFORMATION TO PARTICIPANTS

Title: Clinico pathological analysis of epithelial ovarian carcinoma.

Principal Investigator: Dr. A.Sridevi

Name of the Participant:

Site: Institute of Obstetrics and Gynaecology,Egmore.

You are invited to take part in this study. The information in this document is meant to help you decide whether or not to take part. Please feel free to ask if you have any queries or concerns.

What is the purpose of research?

The purpose of the study is to evaluate the clinic pathological characteristics, treatment and its impact in epithelial ovarian carcinoma

Study procedure:

Clinical examination, investigations, treatment and follow up will be done for epithelial ovarian carcinoma.

Possible benefits to you:

You will be treated for epithelial ovarian carcinoma and follow up will be done.

Possible benefits to other people:

The results of the study may provide benefit to the society by providing clinicopathological characteristics and impact of treatment strategies in outcome of epithelial ovarian carcinoma.

PATIENT CONSENT FORM

Title of the Project

Clinico pathological analysis of epithelial ovarian carcinoma

Institution : Institute of Obstetrics & Gynaecology, Egmore, Chennai-600 008.

Name : **Date :**

Age : **ID No :**

Sex : **Project Patient No.:**

The details of the study have been provided to me in writing and explained to me in my language.

I confirm that I have understood the above study and had the opportunity to ask questions.

I understood that my participation in the study is voluntary and that I am free to withdraw at any time, without giving any reason, without the medical care that will normally be provided by the hospital being affected.

I agree not to restrict the use of any data or results that arise from this study provided such a use is only for scientific purpose(s).

I have been given an information sheet giving details of the study.

I fully consent to participate in the above study regarding clinico pathological analysis of epithelial ovarian carcinoma

Name of the Subject Signature Date

ABBREVATIONS

KEY TO THE MASTER CHART.

P – PARA

TAH – TOYAL ABDOMINAL HYSTERECTOMY

SAH – SUBTOTAL ABDOMINAL HYSTERECTOMY

BSO – BILATERAL SALPINGO OOPHORECTOMY

ICO - INFRACOLIC OMENTECTOMY

TO – TOTAL OMENTECTOMY

OB – OMENTAL BIOPSY

LN – LYMPH NODE SAMPLING

DIB – DIFFICULTY IN BREATHING

DIM - DIFFICULTY IN MICTURITION

NACT – NEOADJUVANT CHEMOTHERAPY

NACT-ADJ - NACT - SURGERY – ADJUVANT

S+O – ONLY SURGERY

ABBREVIATIONS

TVS – TRANS VAGINAL SONOGRAPHY

CA 125 – CANCER ANTIGEN 125

TAH – TOTAL ABDOMINAL HYSTERECTOMY

BSO – BILATEREL SALPINGO OOPHORECTOMY

ICON – INTERNATIONAL COLLABORATION ON OVARIAN NEOPLASM

ACTION – ADJUVANT CHEMOTHERAPY IN OVARIAN NEOPLASM

CHORUS – CHEMOTHERAPY OR UPFRONT SURGERY

GOG – GYNAEC ONCOLOGY GROUP

ROCA – RISK OF OVARIAN CANCER ALGORITHM

RMI – RISK OF MALIGNANCY INDEX

NACT - NEOADJUVANT CHEMO THERAPY

NACT –S- NEOADJUVANT CHEMOTHERAPY

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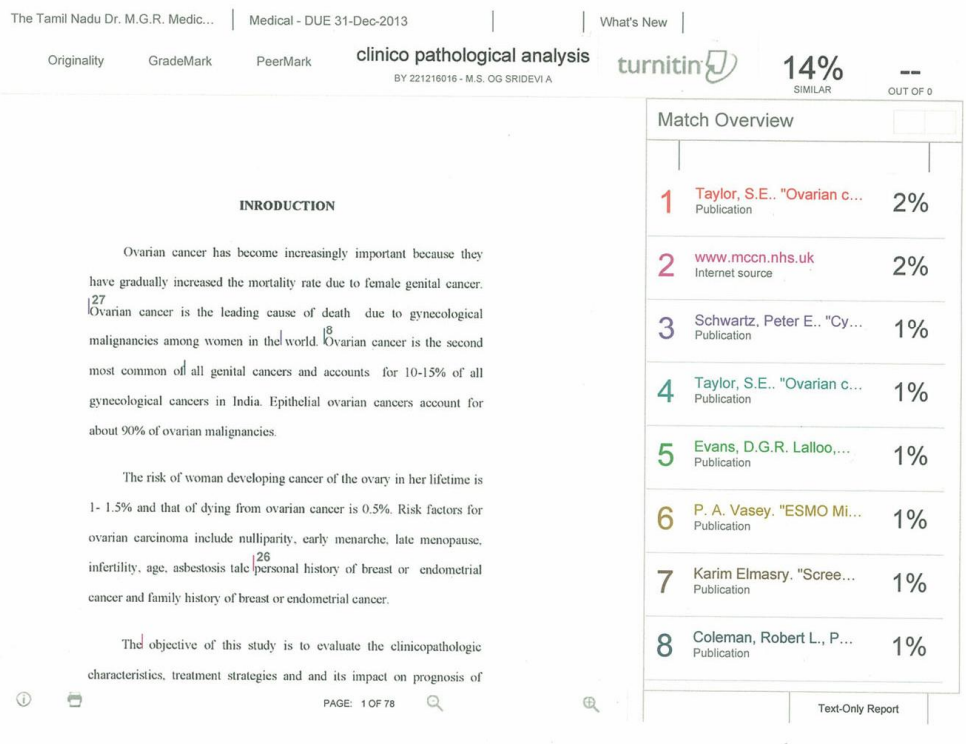
First 100 words of your submission

INRODUCTION Ovarian cancer has become increasingly important because they have gradually increased the mortality rate due to female genital cancer. Ovarian cancer is the leading cause of death due to gynecological malignancies among women in the world. Ovarian cancer is the second most common of all genital cancers and accounts for 10-15% of all gynecological cancers in India. Epithelial ovarian cancers account for about 90% of ovarian malignancies. The risk of woman developing cancer of the ovary in her lifetime is 1- 1.5% and that of dying from ovarian cancer is 0.5%. Risk factors for ovarian carcinoma include nulliparity, early menarche, late menopause, infertility, age, asbestosis talc...



MASTER CHART

date	WCC:NO	NAME	AGE	PLACE	PARITY	FAMILY HIS	CA-125	PRESENTING SYMPTOMS	DIAGOSIS	SURGERY/CYTOLOGY/FNAC	STAGE, GRADE	CHEMOTHERAPY	SURGERY+ OBSERVATION
05.01.12	004/12	Nanjammal	50	Krishnagiri	P5L5	yes	11136	distension,vomiting,abdominal pain,LOW,LOA,diB	endometrioid carcinoma	TAH BSO ICO	IIIC, 2	NACT	O
09.01.12	006/12	Lakshmi	40	Dharmapuri	P1L1	NO	216	distension,vomiting,abdominal pain,LOW,LOA,diB	serous epithelial carcinoma	TAH BSO OB	IV,3	NACT+adjuvant	O
18.01.12	013/12	Balamani	55	Salem	P2L2	NO	17	LOA,LOW, dyspepsia	mucinous carcinoma	ovariotomy	IIIc,3	adjuvantCT	O
08.02.12	026/12	Panchalai	49	Chennai	P4L4	NO	17	distension	serous epithelial carcinoma	TAH BSO ICO	IIIc,3	NACT+adjuvant	O
08.02.12	027/12	Manjula	39	Vellore	P3L3	NO	2473	distension,vomiting,abdominal pain,LOW,LOA,diB	serous epithelial carcinoma	Ascitic fluid analysis	IIIc,3	NACT	O
09.02.12	028/12	Anjali	27	Chennai	P2L2	NO	131	distension,pain	serous epithelial carcinoma	TAH BSO ICO	IIa,1	adjuvantCT	O
23.03.12	037/12	Mahadevi	35	Chennai	P2L2	NO	207		endometrioid adenocarcinom	TAH BSO OB	IIIc,1	adjuvantCT	O
05.03.12	045/12	Navaneetham	48	Ambur	P2L2	NO	8334	distension,dyspepsia,diB,Duo	serous epithelial carcinoma	TAH BSO OB	IIIc,3	adjuvantCT	O
05.03.12	046/12	Vijayalakshmi	45	Chennai	P3L2	NO	48	fever	serous epithelial carcinoma	OB	Ivb,3	adjuvantCT	O
06.03.12	049/12	Ranjitham	65	Chennai	P4L3	NO	2528	distension,pain,LOA	serous epithelial carcinoma	staging/biopsy	IIIc,3	NACT	O
15.03.12	058/12	Chandra	50	Chennai	P2L2	NO	6	pain	mucinous adenocarcinoma	BSO(post VH)	Ic,1	NG	S+O
03.04.12	075/12	Kalpana	26	Chennai	P2L2	NO	32	pain	serous epithelial carcinoma	ovariotomy	Ia,1	NG	S+O
03.04.12	076/12	Prema	58	Chennai	P4L3	NO	126	pain,distension,LOA	serous epithelial carcinoma	TAH BSO OB	IIIc,2	adjuvantCT	O
19.04.12	083/12	Rani	80	Chennai	P2L2	NO	878	pain,vomiting,LOA,LOW	serous epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
12.05.12	097/12	Panchalai	70	Chennai	P6L4	NO	6.5	pain,distension,mass	mucinous adenocarcinoma	TAH BSO	Ia,1	NG	S+O
15.05.12	102/12	Indra	47	Chennai	nullipara	NO	11	mass abdomen	serous epithelial carcinoma	TAH BSO	IIIc,2	adjuvantCT	O
19.05.12	108/12	Gowsiya	28	Chennai	nullipara	NO	14	pain	mucinous adenocarcinoma	ovariotomy	IIIc,3	NG	O
19.05.12	110/12	Shanthi	46	Kanchipuram	P3L3	NO	19	pain,distension,LOA,LOW	serous epithelial carcinoma	TAH BSO OB	Ic,1	adjuvantCT	O
21.05.12	115/12	Mumtaj	50	Chennai	P5L5	NO	148	pain,distension	serous epithelial carcinoma	TAH BSO ICO	IIIc,3	adjuvantCT	O
05.06.12	136/12	Indirani	67	Chennai	P3L3	NO	240	pain,distension,LOA,LOW	serous epithelial carcinoma	TAH BSO OB	IIIc,3	adjuvantCT	O
12.06.12	144/12	Fathimabee	65	Chennai	P3L2	NO	890	distension,pain,LOA,LOW	serous epithelial carcinoma	staging/biopsy	IIIc,3	palliativeCT	O
15.06.12	158/12	Nirmala	50	Chennai	P2L2	NO	8890	distension,pain,LOA,LOW	serous epithelial carcinoma	TAH BSO ICO	IIIc,3	NACT+adjuvant	O
26.06.12	174/12	Baby	52	Chennai	P2L2	NO	45	distension,pain,	mucinous adenocarcinoma	Ascitic fluid analysis	IIIc,3	NACT	O
28.06.12	176/12	Bhavani	46	Chennai	P2L2	NO	128	menorrhagia,dysmenorrhoea	clear cell carcinoma	TAH LSO	Ic,2	adjuvantCT	O
03.07.12	183/12	Kuzhandaiammal	60	Salem	P4L3	NO	800	pain,LOA	epithelial carcinoma	Ascitic fluid analysis	Iva,3	NACT	O
05.07.12	184/12	Fathimagani	58	Chennai	P3L3	NO	600	pain,spotting,LOA	endometrioid adenocarcinom	TAH BSO OB	Ic,2	adjuvantCT	O
10.07.12	188/12	Deivanai	31	Vellore	P2L2	NO	750	mass abdomen, pain	endometrioid adenocarcinom	TAH BSO	Ic,1	adjuvantCT	O
16.07.12	192/12	Padmavathy	57	Chennai	P2L2	NO	258	pain,distension,LOA,LOW	serous epithelial carcinoma	Ascitic fluid analysis	Iva,3	palliativeCT	O
16.07.12	193/12	Kanagam	56	Chennai	P2L2	NO	670	dyspepsia,LOA	endometrioid adenocarcinom	TAH BSO OB	IIIc,3	adjuVantCT	O
01.08.12	198/12	Patchaiammal	52	Avadi	P2L2	NO	600	pain,distension	serous epithelial carcinoma	TAH BSO OB	IIIc,3	adjuvantCT	O
08.08.12	206/12	Nasreen	48	Chennai	P2L2	NO	1549	distension,pain	serous epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
17.08.12	219/12	Bharathi	35	Chennai	nullipara	NO	650	distension,pain,diB,LOA	serous epithelial carcinoma	TAH BSO ICO	IIIc,2	adjuvantCT	O
22.08.12	223/12	Santhosammal	70	Nellore	P4L3	NO	92	dyspepsia,LOA	serous epithelial carcinoma	TAH BSO OB	Ia,1	NG	S+O
27.08.12	228/12	Rajeswari	55	Avadi	P5L5	NO	1331	pain,distension,LOA	epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
04.09.12	242/12	Ganga	52	Chennai	P7L3	NO	12000	pain,distension,LOA,LOW	serous epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
04.09.12	243/12	Mallika	50	Kanchipuram	P5L4	NO	18	pain,distension	mucinous adenocarcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
17.09.12	260/12	Seivi	42	Seergali	P3L3	NO	3814	pain	serous epithelial carcinoma	TAH BSO OB	IIIc,2	adjuvantCT	O
21.09.12	261/12	Kuppu	30	Vellore	P3L3	NO	1120	pain,difficulty in breathing	serous epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
25.09.12	267/12	Pushpa	54	Chennai	nullipara	NO	6	Dyspepsia,LOA	endometrioid adenocarcinom	TAH BSO OB	IIIa,2	adjuvantCT	O
26.09.12	270/12	Suseela	50	Thiruvannamalai	P2L1	NO	503	mass,LOA,LOW	epithelial carcinoma	Ascitic fluid analysis	Ivb,3	NG	O
27.09.12	272/12	Selvi	54	Vellore	P3L3	NO	487	white discharge pv	endometrioid adenocarcinom	TAH LSO	IIIc,3	adjuvantCT	O
01.10.12	275/12	Nagapoosanam	45	Chennai	P2L2	NO	88	pain,LOA,LOW	epithelial carcinoma	Ascitic fluid analysis	IV,3	palliativeCT	O

date	WCC:NO	NAME	AGE	PLACE	PARITY	FAMILY HIS	CA-125	PRESENTING SYMPTOMS	DIAGOSIS	SURGERY/CYTOLOGY/FNAC	STAGE, GRADE	CHEMOTHERAPY	SURGERY+ OBSERVATION
01.10.12	276/12	Gunasundari	55	Thiruvannamalai	P4L2	NO	6629	pain,distension,diM, dyspepsia	serous epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
03.10.12	278/12	Rajeshwari	50	Thiruvannamalai	P2L2	NO	4261	pain,distension,dyspepsia,LOA,LOW	serous epithelial carcinoma	staging/biopsy	IIIc,3	palliativeCT	O
06.10.12	288/12	Nithya	22	Chennai	nullipara	NO	18	pain	borderlinemucinous adenocar	ovariotomy	Ia	NG	S+O
08.10.12	289/12	Sagayamary	40	Chennai	nullipara	NO	1032	mass,LOA,LOW	clear cell carcinoma	TAH BSO	Ic,2	NG	O
09.10.12	296/12	Ammaniammal	65	Villupuram	P3L3	NO	1246	pain,distension,LOA,LOW,constipation	epithelial FNAC	Ascitic fluid analysis	Ivb,3	palliativeCT	O
09.10.12	298/12	Kuppu	30	Vellore	P3L3	NO	1120	pain,distension	epithelial carcinoma	Ascitic fluid analysis	IIIc,3	NG	O
09.10.12	299/12	Sarasu	38	Thiruvannamalai	nullipara	NO	416	distension,LOA,LOW	serous epithelial carcinoma	TAH BSO OB	IIIc,3	adjuvantCT	O
17.10.12	312/12	Mariammal	37	Coimbatore	P3L3	NO	401	distension,difficulty in breathing	epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
26.10.12	325/12	Amirtham	60	Chennai	P2L1	NO	39	pain	serous epithelial carcinoma	TAH BSO ICO	IIIc,3	adjuvantCT	O
05.11.12	333/12	Padmavathy	42	Thiruvannamalai	P2L2	NO	358	pain,menorrhagia	endometrioid adenocarcinom	TAH BSO ICO	Ia,1	NG	S+O
05.11.12	334/12	Unnamalai	62	Vellore	P3L2	NO	34	bleeding pv,white discharge pv	serous epithelial carcinoma	TAH BSO OB	II a,3	adjuvantCT	O
10.11.12	340/12	Amirthammal	71	Chennai	P2L1	NO	386	pain,distension,LOA,LOW	serous epithelial carcinoma	Ascitic fluid analysis	IIIc,3	NG	O
14.11.12	344/12	Govindammal	55	Chittur	P4L3	NO	269	pain,distension,nausea,dyspepsia	epithelial carcinoma	Ascitic fluid analysis	Ivb,3	palliativeCT	O
19.11.12	348/12	Peryayee	50	VillupuramP5L5		NO	970	pain,LOA,LOW	epithelial carcinoma	Ascitic fluid analysis	Ivb,3	NG	O
19.11.12	350/12	Jothi	51	Chennai	nullipara	NO	62	difficulty in breathing	epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
22.11.12	353/12	Parvathy	57	kanchipuram	P4L4	NO	600	dyspepsia,LOA	serous epithelial carcinoma	TAH BSO TO LN	IIIc,2	NACT+adjuvant	O
22.11.12	358/12	Madhaviammal	78	Kodungaiyur	P5L3	NO	318	pain,difficulty in micturition	serous epithelial carcinoma	TAH BSO ICO	II c,3	NG	O
24.11.12	362/12	Manimegalai	37	Periyakanchipura	P1L1	NO	78	pain,nausea,vomiting	endometrioid adenocarcinom	LSO	I a,1	NG	O
25.11.12	363/12	Dhanabhagiyam	45	Periyakanchipura	P2L0	NO	4250	distension,LOA,LOW	epithelial carcinoma	Ascitic fluid analysis	III c,3	palliativeCT	O
27.11.12	368/12	Premavathy	50	Chennai	P3L3	NO	53	pain	Serous epithelial carcinoma	TAH BSO ICO	IIIc,3	adjuvantCT	O
10.12.12	389/12	nagarathinam	65	Chennai	P2L2	NO	1178	dyspepsia	serous epithelial carcinoma	TAH BSO ICO	IIIb,1	adjuvantCT	O
15.12.12	398/12	Prema	38	Chennai	P2L2	NO		distension,pain	mucinous adenocarcinoma	ovariotomy	Ia,1	adjuvantCT	S+O
28.12.12	411/12	Suriyakumari	45	Chennai	P4L4	NO	304	pain,distension,vomiting,PE	B/I endometrioid adenocarcin	TAH BSO ICO	IIIc,3	NG	O
08.01.13	009/13	Niraimathi	50	Kanchipuram	nullipara	NO	33	pain	B/I endometrioid adenocarcin	SAH BSO OB	IIIc,2	adjuvantCT	O
09.01.13	010/13	Jayanthi	45	Chennai	P3L3	NO	163	pain,distension	endometrioid adenocarcinom	TAH BSO ICO	Ia,3	AdjuvantCT	S+O
21.01.13	026/13	Premavathy	52	Chennai	nullipara	NO	4333	distension	B/I endometrioid adenocarcin	TAH BSO ICO ADRE	IIIc,3	adjuvantCT	O
23.01.13	031/13	Lakshmi	35	Chennai	P4 L4	NO	619	pain,distension,BSWD	malignant surface epithelial tu	Ascitic fluid analysis	Ivb,3	NG	O
25.01.13	036/13	Ranjitham	65	Kandigai	P4 L4	NO	3872	pain,distension,LOA,LOW	epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
28.01.13	037/13	Palaniyammal	55	Dharmapuri	P2L2	NO	396	pain,distension	B/I serousepithelial cystadeno	TAH BSO ICO	IIIc,2	adjuvantCT	O
04.02.13	046/13	Ayeshabee	75	Kanchipuram	P2L0	NO	2361	distension,pain,vomiting	B/I serous epithelial cystaden	SAH BSO OB	IIIc,3	NG	O
08.02.13	053/12	saraswathy	59	Chennai	P2L2	NO	17	distension,pain	mucinous cysadenocarcinoma	TAH BSO ICO	Ib,1	NG	O
11.02.13	055/13	Krishnammal	55	Gumidipoondi	P2L2	NO	9819	distension,pain	malignant surface epithelial tu	Ascitic fluid analysis	IIIc,3	NG	O
15.02.13	058/13	Chokkammal	42	Thenkalaikottai	p3l3	NO	1972	distension,pain	malignant surface epithelial tu	Ascitic fluid analysis	Ivb,3	palliativeCT	O
13.02.13	062/13	Syrajunisha	55	Vellore	P6L6	NO	55	distension,pain	malignant surface epithelial tu	Ascitic fluid analysis	IIIc,3	palliativeCT	O
18.02.13	068/13	Rani	45	Ooty	P3L3	NO	53	pain,vomiting,spotting	B/I endometrioid adenocarcin	TAH BSO ICO	IIIc,3	NG	O
10.04.12	133/13	Motchalangaram	45	Chennai	P2L2	NO	76	pain	endometrioid adenocarcinom	TAH BSO ICO	IIIa,2	adjuvantCT	O
10.04.12	135/13	Muniammal	50	Thiruvannamalai	P3L3	NO	4896	pain,distension	mucinous cysadenocarcinoma	TAH BSO ICO	IIIc,2	NG	O
13.04.12	138/13	Sagunthala	65	Thiruvannamalai	P1L1	NO	23	distension	mucinous cysadenocarcinoma	SAH BSO OB	IIIc,3	adjuvantCT	O
02.05.13	159/13	Valliammal	56	Chennai	P2L2	NO	97	pain,LOW	serous epithelial carcinoma	TAH BSO	IIIc,3	NG	O
07.05.13	166/13	Stellamary	27	Chennai	nullipara	NO	134	pain.distention	endometrioid adenocarcinom	TAH BSO ICO	Ic,1	NG	O
10.05.13	173/13	Komala	43	Chennai	P3L3	NO	10	distension,dyspepsia,pain	borderline mucinous tumour	TAH BSO OMENTAL I	Ia	NG	S+O
18.05.13	183/13	kanthammal	50	Vellore	P3L3	NO	167	distension,pain,leg swelling	serous epithelial carcinoma	Ascitic fluid analysis	IIIc,3	palliativeCT	O
29.05.13	197/13	Saratha	45	Vellore	P3L3	NO	9	distension,dyspepsia	B/I serous epithelial cystaden	TAH BSO ICO	IIIc,3	adjuvantCT	O
03.06.13	203/13	Saraswathy	65	Avadi	P1L1	NO	13064	pain,dyspepsia	malignace epithelial tumourar	Ascitic fluid analysis	Ivb,3	palliativeCT	O
04.06.13	205/13	Minnalkodi	28	Chennai	nullipara	NO	16	distension,pain	borderline mucinous tumour	TAH BSO ICO	Ia	NG	S+O
05.06.13	208/13	Rajeswari	55	Cuddalore	P2L2	NO	389	pain	clea rcell carcinoma	TAH BSO ICO	IIIc,3	NG	O
24.06.13	252/13	lavanya	54	Chennai	P4 L4	NO	1359	distension	serous epithelial carcinoma	TAH BSO ICO	II c,3	adjuvantCT	O