

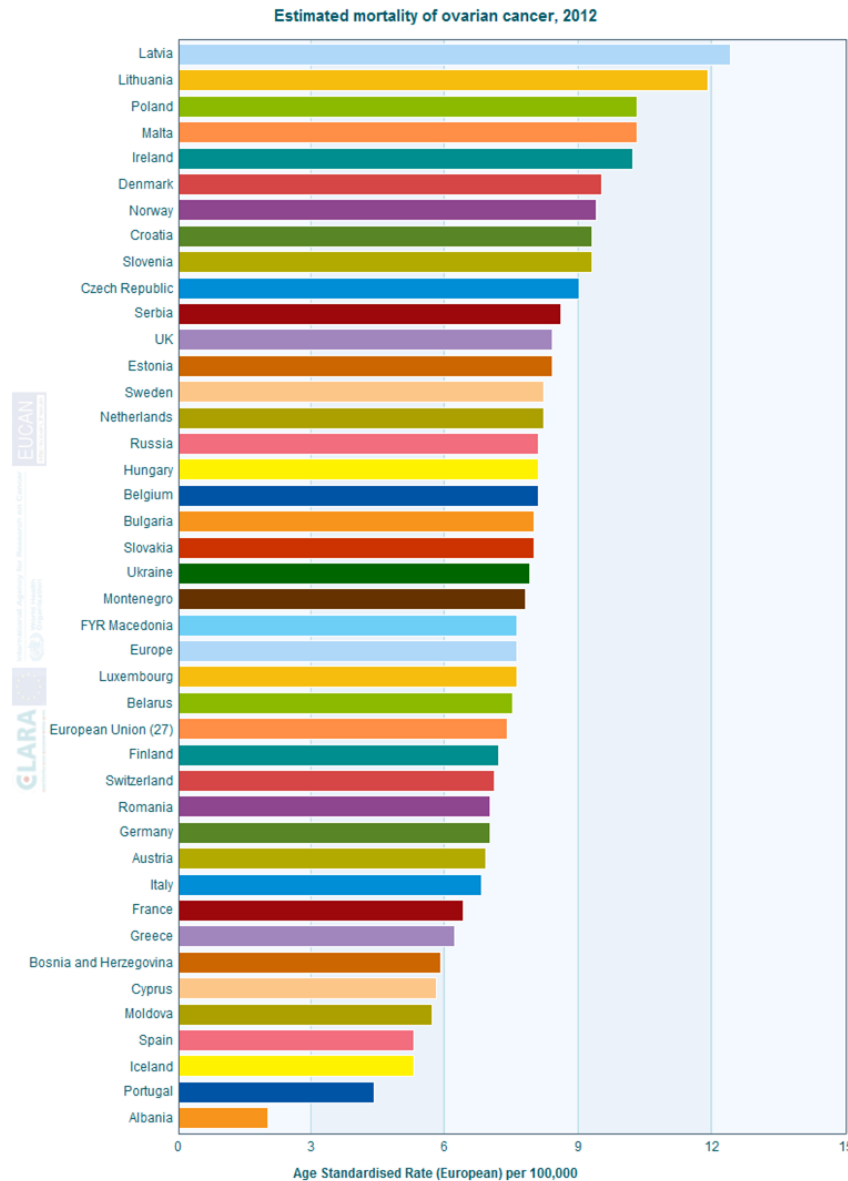
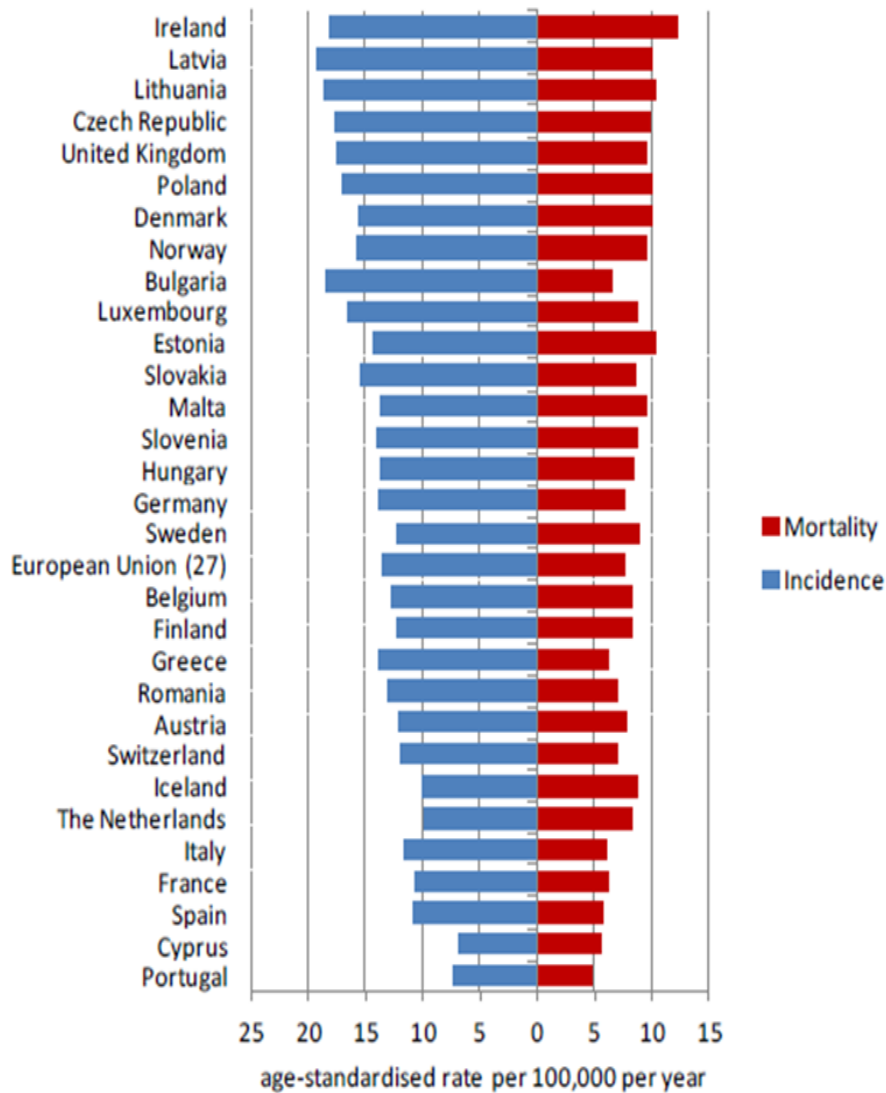
Trinity College Dublin
College of Medicine, Biopharm Sciences
The University of Dublin

Ovarian Cancer

Background

- **4th most common cancer for women**
- **479 new cases a year**
- **General risk to age 74 ; 1.4%**
- **10% familial: BRCA / Lynch / ?others**
- **80% post menopause**

Ovarian Cancer mortality rates



Stage Vs Grade

- **Grade = Characteristics generally consistent with tumour behaviour / Differentiation**
- **Stage = Anatomical distribution**

Pathology of Ovarian Cancer

Epithelial Tumours (90%)

- Serous - 75% of all ovarian ca.
- Endometrioid – 10%
- Clear cell – ~7%
- Mucinous – ~5%
- Carcinosarcoma – rare / aggressive/advanced stage / poor prognosis
 - Mixed Mullerian Tumours

Pathology of Ovarian Cancer

Sex cord – stromal tumours (<2%) – gonadal stroma – endocrine

- Granulosa cell T. – low grade/ indolent /late recurrence/ inhibin (juvenile version recurs sooner)
- Sertoli leydig cell T. – combo cell types / grade = behaviour
- Steroid cell T. – uncommonly malignant
- Thecoma / Fibroma group – usually benign, except fibrosarcoma

Pathology of Ovarian Cancer

Germ cell tumours (<3%) – undifferentiated primordial germ cells

- Yolk sac tumour
- Dysgerminoma
- Embryonal carcinoma
- Choriocarcinoma
- Teratoma

Rare

Children/adolescents

aggressive/excellent response

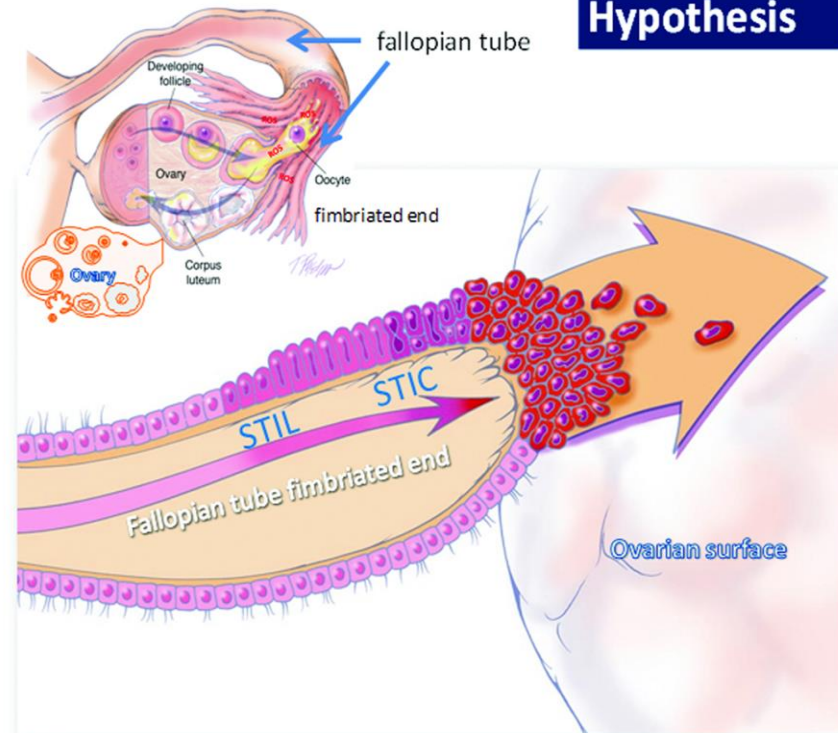
AFP/HCG

Pathology of Ovarian Cancer

Hypothesis

Serous:

- HGSC Vs LGSC – tubal differentiation
- HGSC 70%, LGSC 5% of all ovarian malignancies
- Fimbrial STIC exfoliation
- Post menop. / raised ca125 / advanced stage
- Variable size / cystic / solid
- IHC
- Borderline variant



Proposed development of ovarian HGSC by direct shedding and implantation of STIC cells from the fimbria

Pathology of Ovarian Cancer

Endometrioid:

- Asc. with endometriosis (42%), endometrial ca (20%), Lynch
- Rarely borderline, usually low grade
- 30% bilateral
- IHC / MMR genes

Clear cell:

- Asc. Endometriosis (50-70%), Lynch
- Solid nodule in chocolate cyst / solid / cystic / unilocular
- IHC / MMR genes

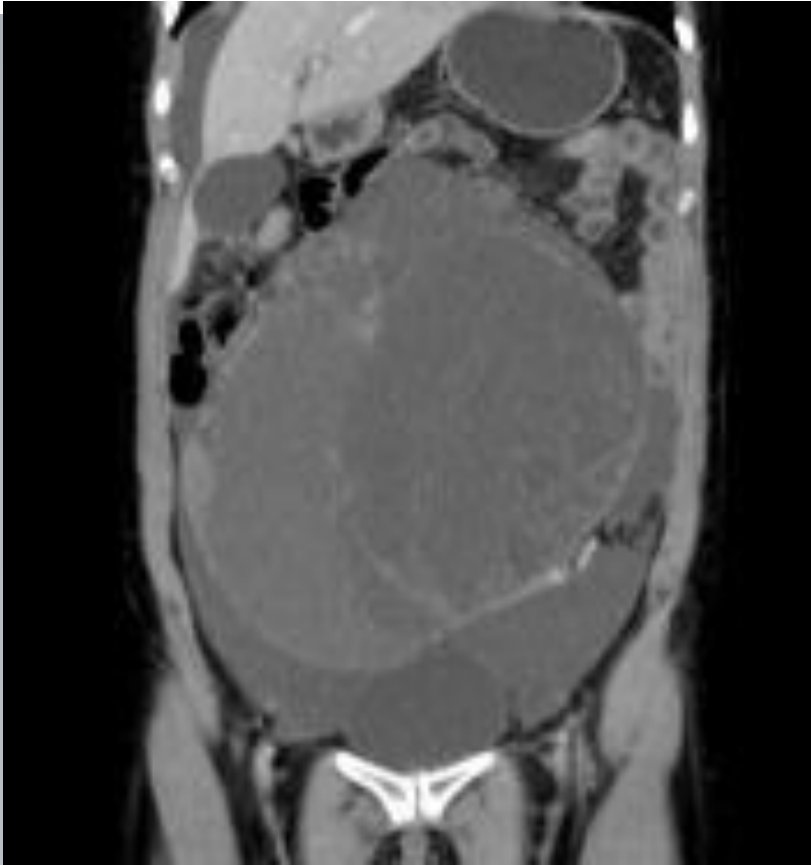
Pathology of Ovarian Cancer

Mucinous:

- Majority of mucinous tumours are metastatic from GI – especially if bilateral/ surface lesions
- 5% of ovarian malignancies
- Largest ovarian tumours / unilateral / multi-loculated
- Intestinal / endocervical types
- Ca 19.9 , CEA, modest Ca 125
- Borderline type

Mucinous...

Mucinous:



Pathology of Ovarian Cancer

Metastatic pathways

- Transcoelomic
- Lymphatic
- Haematogenous

Risk factors

Age

Nuliparity

Late age at first birth

Early menarche

Late menopause

Ovarian stimulation

Ionising radiation

Obesity

Family history

Protective factors:

Increasing parity

OCP

Breastfeeding

Tubal ligation

Genetic Risk – Ovarian Cancer

Background Risk ; 1.4%

BRCA 1: 45%

72% - Breast

BRCA 2 : 27%

69% - Breast

Lynch syndrome : varies... 6- 20%

60-80% CRC, 40% Endometrial

1 x 1st degree relative : 4%

2 x first degree relatives : 12%

Presenting Symptoms

- Bloating
- Eating less – early satiety/anorexia
- Abdominal / pelvic pain
- Urinary symptoms
- Dyspareunia
- Abnormal uterine bleeding
- Weight loss

- New IBS Sx in >40yo..

Recognize the signs &



Bloating that is persistent
Eating less and feeling fuller
Abdominal pain
Trouble with your bladder

Work up

- **Imaging – CT TAP/ MRI Pelvis**
- **Histology/cytology**
- **Optimisation of co-morbidities**
- **MDT**

Ovarian Cancer Staging – FIGO 2014

I	Tumor confined to ovaries or fallopian tube(s)	T1
IA	Tumor limited to one ovary (capsule intact) or fallopian tube, No tumor on ovarian or fallopian tube surface No malignant cells in the ascites or peritoneal washings	T1a
IB	Tumor limited to both ovaries (capsules intact) or fallopian tubes No tumor on ovarian or fallopian tube surface No malignant cells in the ascites or peritoneal washings	T1b
IC	Tumor limited to one or both ovaries or fallopian tubes, with any of the following: IC1 Surgical spill intraoperatively IC2 Capsule ruptured before surgery or tumor on ovarian or fallopian tube surface IC3 Malignant cells present in the ascites or peritoneal washings	T1c
II	Tumor involves one or both ovaries or fallopian tubes with pelvic extension (below pelvic brim) or peritoneal cancer (Tp)	T2
IIA	Extension and/or implants on the uterus and/or fallopian tubes/and/or ovaries	T2a
IIB	Extension to other pelvic intraperitoneal tissues	T2b
III	Tumor involves one or both ovaries, or fallopian tubes, or primary peritoneal cancer, with cytologically or histologically confirmed spread to the peritoneum outside the pelvis and/or metastasis to the retroperitoneal lymph nodes	T3
IIIA	Metastasis to the retroperitoneal lymph nodes with or without microscopic peritoneal involvement beyond the pelvis	T1,T2,T3aN1
IIIA1	Positive retroperitoneal lymph nodes only (cytologically or histologically proven)	
IIIA1(i)	Metastasis ≤ 10 mm in greatest dimension (note this is tumor dimension and not lymph node dimension)	T3a/T3aN1
IIIA1(ii)	Metastasis > 10 mm in greatest dimension	
IIIA 2	Microscopic extrapelvic (above the pelvic brim) peritoneal involvement with or without positive retroperitoneal lymph nodes	T3a/T3aN1
IIIB	Macroscopic peritoneal metastases beyond the pelvic brim ≤ 2 cm in greatest dimension, with or without metastasis to the retroperitoneal lymph nodes	T3b/T3bN1
III C	Macroscopic peritoneal metastases beyond the pelvic brim > 2 cm in greatest dimension, with or without metastases to the retroperitoneal nodes (Note 1)	T3c/T3cN1
IV	Distant metastasis excluding peritoneal metastases Stage IV A: Pleural effusion with positive cytology Stage IV B: Metastases to extra-abdominal organs (including inguinal lymph nodes and lymph nodes outside of abdominal cavity) (Note 2) (Note 1: includes extension of tumor to capsule of liver and spleen without parenchymal involvement of either organ) (Note 2: Parenchymal metastases are Stage IV B)	Any T, Any N, M1 T3c/T3cN1

Notes:

Stage 1

Tumour confined to ovaries or fallopian tube(s) 5YS

- **IA** Tumour limited to within one ovary (capsule intact) or fallopian tube **85%**
- **IB** Tumour limited to within both ovaries (capsules intact) or fallopian tubes **85%**
- **IC** Tumour limited to one or both ovaries or fallopian tubes, with any of the **80%** following:
 - IC1 Surgical spill intraoperatively
 - IC2 Capsule ruptured before surgery or tumour on ovarian or fallopian tube surface
 - IC3 Malignant cells in the ascites or peritoneal washings

- **Stage 2**

Tumour involves one or both ovaries or fallopian tubes with pelvic extension (below pelvic brim) or primary peritoneal cancer **5YS – 70%**

- **IIA** **Extension and/or implants on the uterus and/or fallopian tubes/and/or ovaries**

-

- **IIB** **Extension to other pelvic intraperitoneal tissues**

- **Stage 3**

Pathologically confirmed spread to the peritoneum outside the pelvis and/or metastasis to the retroperitoneal lymph nodes **5YS – 40%**

- **IIIA1 Positive retroperitoneal lymph nodes only**
 - (i) Metastasis ≤ 10 mm in greatest dimension
 - (ii) Metastasis > 10 mm in greatest dimension
- **IIIA2 Microscopic extra-pelvic (above the pelvic brim) peritoneal involvement with or without positive retroperitoneal lymph nodes**

- **Stage 3**

Pathologically confirmed spread to the peritoneum outside the pelvis and/or metastasis to the retroperitoneal lymph nodes

- **IIIB Macroscopic peritoneal metastases beyond the pelvic brim \leq 2 cms in greatest dimension, with or without metastasis to the retroperitoneal lymph nodes**

- **IIIC Macroscopic peritoneal metastases beyond the pelvic brim $>$ 2 cms in greatest dimension, with or without metastases to the retroperitoneal nodes.**

(includes extension of tumour to capsule of liver and spleen without parenchymal involvement of either organ)

- **Stage 4**

Distant metastasis excluding peritoneal metastases **5YS – 10%**

- **IVA: Pleural effusion with positive cytology**

- **IVB: Metastases to extra-abdominal organs**

(including inguinal lymph nodes and lymph nodes outside of abdominal cavity and parenchymal mets)

MDT – always, always, always ...

Gynaecological Oncologists

Radiation Oncologist

Medical oncologist

Pathologist

Radiologist

Specialist nurses

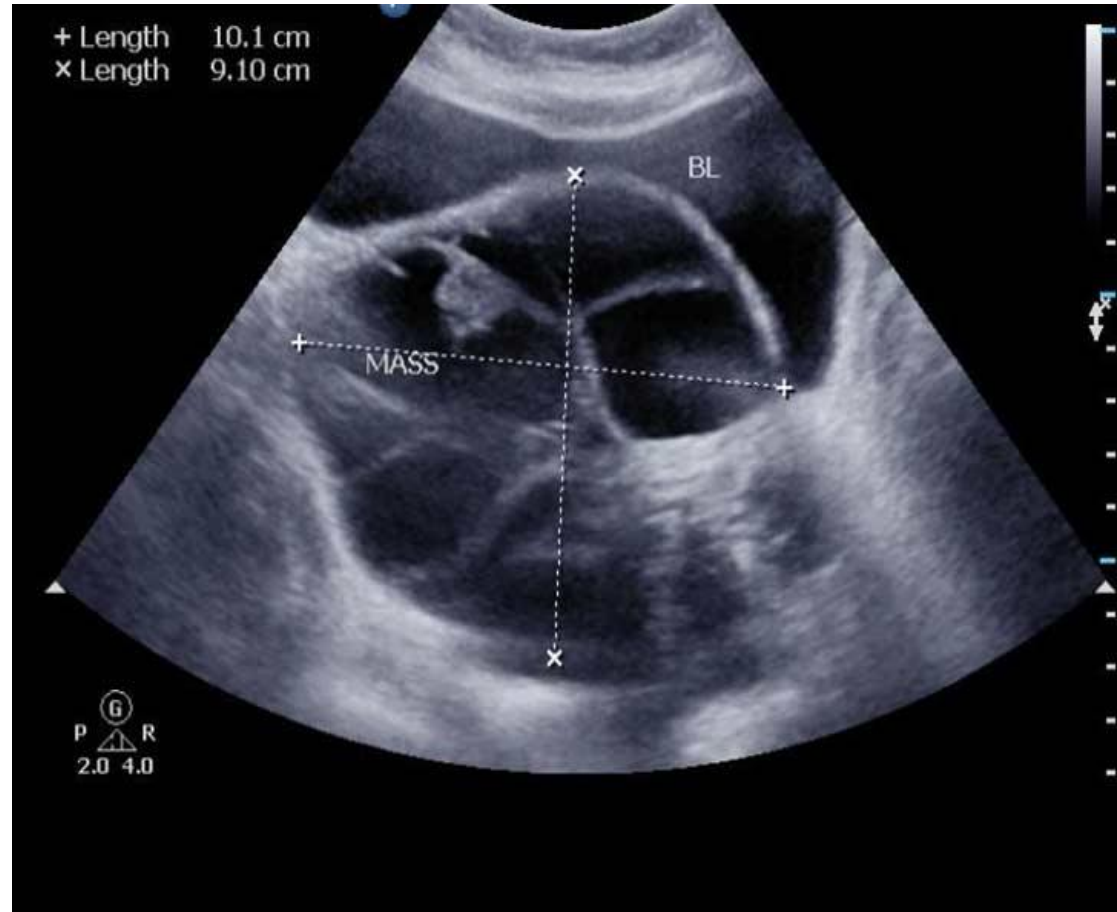
Admin staff

Management

- **Primary cytoreduction**
- **Neoadjuvant chemotherapy – usually 3-4K carbo/taxol**
- **Adjuvant chemotherapy – Usually 6K carbo/taxol**
- **PARPi**
- **Fertility sparing treatment?**

Case 1

- 69yo
- Abdominal bloating/ urinary urgency
- Ultrasound:
 - Normal uterus
 - Right ovary not visualised
 - Left ovary – see pic
- Ca125: 60
- CEA 15



Case 2

- 45 yo

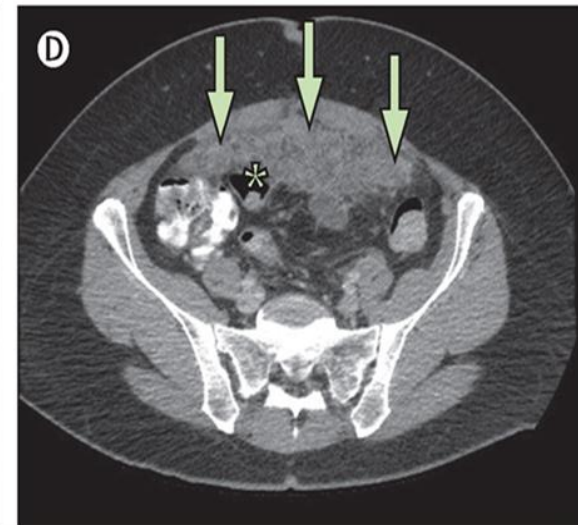
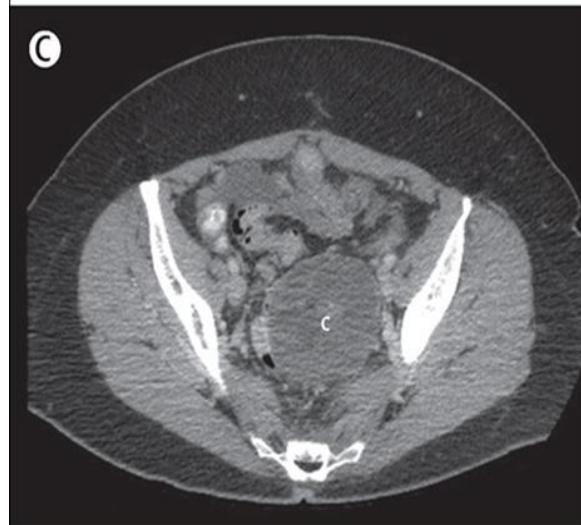
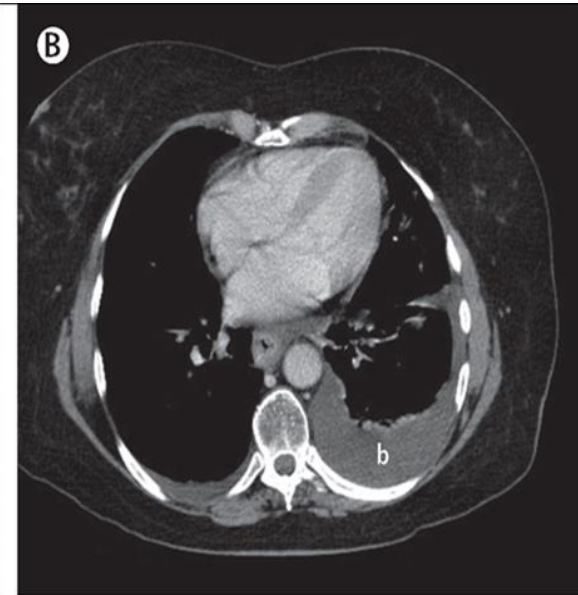
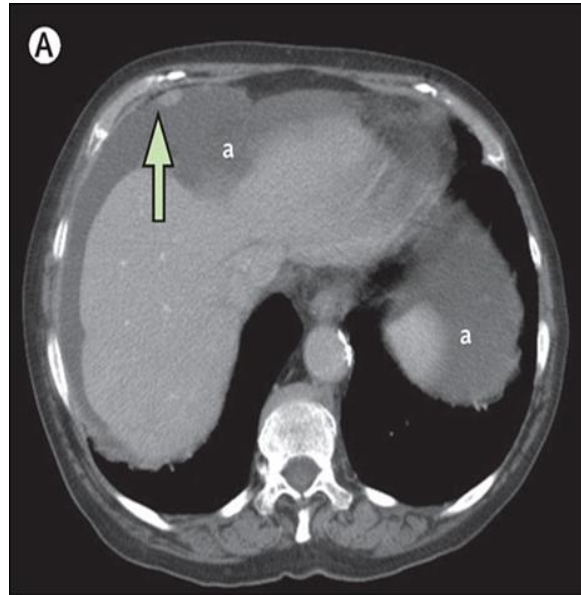
- P/C:

- Weight loss
- Lethargy
- Abdominal distension

- Family history:

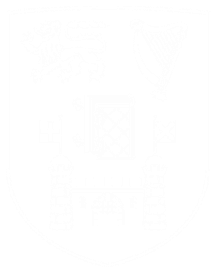
- Mother Ovarian cancer 50yo
- Sister Breast cancer 45yo
- Mat Aunt Breast Cancer 55yo
- Mat Uncle – Melanoma 52yo

- Ca125: 652



Key Points

- **Histopathological subtypes**
- **Counselling on risk**
- **Presenting Symptoms and RMI**
- **Work up**
- **MDT!!**
- **Management**
- **Staging**



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College of Theology, Bible and Church
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Thank You

