Ovarian cancer CT reporting template:

Report example:

Clinical context: Large fibroid uterus. Left multilobulated cyst.? Malignancy

I have reviewed previous ultrasound reports dated November 2023.

CT finding suggest represents malignant disease process with peritoneal involvement.

However, it the site of the primary disease is not clearly demonstrated. No lesion conforming to ultrasound description of multiloculated cystic mass is seen in CT ( we do not have precontrast imaging, therefore it is not possible to be sure if the hyperdensity seen in large pelvic mass is hyperdense contents or enhancment).

Primary:

Uterus is markedly bulky and heterogenous. There is central heterogenous lesion -this, I think represents a large degenerated submucosal fibroid. Endometrium appears rather displaced. There are multiple smaller fibroids also seen in uterus. This correlates with ultrasound description.

A small tubular structure seen in left adnexa- can be dilated left fallopian tube or ovarian. But the ovaries and adnexa are not clearly defined.

Metastasis:

Numerous hyperdense (enhancing) nodular lesion noted throughout the abdomen with peritoneal/ mesenteric and retroperitoneal involvement as detailed below-:

Ascites:

Minimal peritoneal fluid is noted in right iliac fossae.

Lung base:

Basal pleura is uninvolved. No pleural effusion (Chest CT not done).

A solitary indeterminate 5mm right paracardiac node.

Left upper quadrant:

A solitary deposit seen at inferior pole of spleen. No splenic hilar disease. No left Subdiaphragmatic disease.

Epigastric and stomach bed:

Gastric splenic ligament uninvolved. Lesser omentum uninvolved. Gastric and duodenal serosa uninvolved.

Right upper quadrant :

Solitary right subdiaphragmatic nodule. No plaque like thickening of the subdiaphragmatic region.

Perihepatic subcapsular disease:

No Hepatic portal disease. Lesser sac is not involved. Falciform ligament uninvolved. Morrison pouch and gall bladder fossae uninvolved.

Liver, Spleen and visceral organs:

Two indeterminate focal lesion in liver- both in segment 8 - measure 8 and 16 mm respectively- may represent metastasis. A cyst in liver liver in segment 4A. No convincing invasive surface implants.

Numerous hypoattenuating non expansile lesions in kidneys, on both sides- nature is not clear - ??metastasis.

Right paracolic space:

Mild nodularity and mild peritoneal and serosal disease along ascending colon. Large deposits along cecum.No Appendiceal mass.

Pelvis disease:

Size of ovarian masses : Primary mass not discretely discernible.

Uterine and adnexal invasion :Nodularity of uterine surface may be due to metastatic deposits. Adnexal involvement is possible especially on left side.

Peritoneal reflection of the anterior and posterior pouch of Douglas is involved. Numerous nodules in pouch of douglas. Overall, the largest deposit is noted in pouch of douglas , it is abutting left Iliacus muscle. Measures 11 X 9 cm axillary and 12 cm craniocaudally.

Para rectal and sigmoid nodules: Numerous pararectal and sigmoid nodules.

Rectal and sigmoid diffuse serosal wall and luminal invasion: Rectal serosal wall involved(key images)

Thickened enahcning left gonadal vein- I suspect tumoural invasion.

Ureteric invasion cannot be commented upon, though left ureter is in intimate relation with metastatic deposits, but no hydronephrosis.

Bony and muscular pelvic side wall invasion: Not involved.

Presacral disease: presacral nodules seen.

Greater omental disease: No diffuse cake but mild stranding of unclear significance.

The transverse mesocolon is involved with thickening and nodularity.

Mesenteric disease : None. Root of mesentery not involved/.

Lymphadenopathy:

a. Pelvic: extensive , involves all levels.

b. Abdominal: Retroperitoneal: Left retroperitoneal nodes , especially below and around kidney. High retroperitoneal nodes at or above coeliac axis not seen.

Summary :

Sites of Resectable Disease:

1. Pelvis: Left adnexa / Pouch od douglas/pararectal and sigmoid nodules/ probable uterine invasion.

2. Abdomen : Perisplenic deposit/right subdiaphragmatic deposit/bilateral paracolic deposits and peritoneal involved. Large deposits near cecum.

3. Retroperitoneum : Numerous retroperitoneal nodes below coealic axis.

4. Chest - not included.

Potentially non resectable disease :

1. Pelvis : Serosal involvement of sigmoid/ left gonadal vein involvement (not sure about left ureter- but no hydronephrosis).

2. Abdomen : None

Non resectable disease :

1. Indeterminate foci in segment 8 of liver- concerning for metastasis.

2.Numerous hypoattenuating non expansile lesions in kidneys, on both sides- nature is not clear - ??metastasis.

Radiological FIGO stage :

Stage IIIC v/s IVB

Conclusions: Peritoneal/ovarian malignancy. If proven malignant FIGO staging will be at least Stage IIIC. If liver or renal lesions are proven to be metastatic then staging will be IVB.

Suggest:

Correlation with CA 125

Tissue diagnosis: The peritoneal deposit are amenable to percutaneous biopsy.

Consider PET scan after (MDT discussion).

\*\*\*THIS REPORT CONTAINS CRITICAL RADIOLOGICAL FINDINGS REQUIRING PROMPT ATTENTION\*\*\*

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Areas involved:

***The features in yellow are sites of potentially non resectable disease. The features in red are sites of non resectable disease.***

1. Pleura \_ pleural effusion/ pleural infiltration.
2. Paracardial nodes.
3. Left upper quadrant:
   1. Peri splenic subcapsular, splenic hilar
   2. Subdiaphragmatic disease.
4. Gastric splenic ligament
5. Lesser omentum
6. Gastric and duodenal serosa
7. Right upper quadrant :
   1. Subdiaphragmatic disease: nodule or diffuse
   2. Subdiaphragmatic disease:Plague disease with diaphragm > 2 m thick
8. Perihepatic subcapsular disease.
   1. Hepatic portal
   2. Lesser sac
   3. Falciform ligament
   4. Morrison pouch and gall bladder fossae
   5. Parenchymal liver metastasis or invasive surface implants.
9. Right paracolic space:
   1. Peritoneal and serosal disease along ascending colon.
   2. Appendiceal mass
10. Pelvis disease
    1. Size of ovarian masses
    2. Uterine and adnexal invasion
    3. Peritoneal reflection of the anterior and posterior pouch of Douglas
    4. Para rectal and sigmoid nodules
    5. Rectal and sigmoid diffuse serosal wall and luminal invasion
    6. Vascular side wall invasion
    7. Ureteric invasion
    8. Bony and muscular pelvic side wall invasion
    9. Diffuse presacral disease
11. Greater omental disease:
    1. Stranding nodule or diffuse omental cake
    2. Involvement of transverse mesocolon
12. Mesenteric disease
    1. Diffuse large volume disease.
    2. Root of small bowel mesentery
13. Lymphadenopathy
    1. Pelvic
    2. Abdominal
    3. Retroperitoneal
    4. High retroperitoneal nodes at or above coeliac axis.

**Table 2 FIGO staging of ovarian cancer 2014 [**[**11**](https://cancerimagingjournal.biomedcentral.com/articles/10.1186/s40644-016-0076-2#ref-CR11)**]**

From: [CT in ovarian cancer staging: how to review and report with emphasis on abdominal and pelvic disease for surgical planning](https://cancerimagingjournal.biomedcentral.com/articles/10.1186/s40644-016-0076-2)

FIGO staging:

**Stage I: Tumour confined to ovaries**

* 1A: Tumor limited to 1 ovary, capsule intact, no tumor on surface, negative washings.
* 1B: Tumor involves both ovaries otherwise like IA.
* 1C: Tumor limited to 1 or both ovaries
* IC1: Surgical spill
* IC2: Capsule rupture before surgery or tumor on ovarian surface.
* IC3: Malignant cells in the ascites or peritoneal washings.

**Stage II: Tumor involves 1 or both ovaries with pelvic extension (below the pelvic brim) or primary peritoneal cancer**

* IIA: Extension and/or implant on uterus and/or Fallopian tubes
* IIB: Extension to other pelvic intraperitoneal tissues

**Stage III: Tumor involves 1 or both ovaries with cytologically or histologically confirmed spread to the peritoneum outside the pelvis and/or metastasis to the retroperitoneal lymph nodes**

* IIIA: Positive retroperitoneal lymph nodes and /or microscopic metastasis beyond the pelvis
  + IIIA1: Positive retroperitoneal lymph nodes only
  + IIIA1(i) Metastasis ≤ 10 mm
  + IIIA1(ii) Metastasis > 10 mm
  + IIIA2: Microscopic, extrapelvic (above the brim) peritoneal involvement ± positive retroperitoneal lymph nodes
* IIIB: Macroscopic, extrapelvic, peritoneal metastasis ≤ 2 cm ± positive retroperitoneal lymph nodes. Includes extension to capsule of liver/spleen.
* IIIC: Macroscopic, extrapelvic, peritoneal metastasis > 2 cm ± positive retroperitoneal lymph nodes. Includes extension to capsule of liver/spleen.

**Stage IV: Distant metastasis excluding peritoneal metastasis**

* IVA: Pleural effusion with positive cytology
* IVB: Hepatic and/or splenic parenchymal metastasis, metastasis to extra- abdominal organs (including inguinal lymph nodes and lymph nodes outside of the abdominal cavity)

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Report template:

* Sites of Resectable Disease:

1. Pelvis:
2. Abdomen
3. Retroperitoneum
4. Chest (if included)

* Potentially non resectable disease

1. Pelvis
2. Abdomen
3. Retroperitoneum
4. Chest (if included)

* Non resectable disease

1. Pelvis
2. Abdomen
3. Retroperitoneum
4. Chest (if included)

* Disease Complications
* Stage of ovarian carcinoma
* Radiological FIGO stage
* Other significant findings

 eg. AAA, unexpected non ovarian malignancy

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For predicting non-resectability, CT plays a critically important role in identifying lesions >2 cm at the root of the mesentery, gastro-splenic ligament, lesser sac, porta hepatis, falciform ligament, para-cardiac nodes and lung parenchyma, and also in detecting high retroperitoneal lymphadenopathy, presacral extraperitoneal disease, and pelvic sidewall invasion.