NCG GUIDELINES- 2019

Gynecological Cancers

Management Guidelines

**Categories of the guidelines**

1. Essential
2. Optimal
3. Optional

*\*Herewith essential will be referred as (a),optimal as (b) and optional as (c)*

*Disclaimer: These are general guidelines and must be considered with value judgements for individual patients.*

*The document defines management guidelines for treatment, education and research purpose only and by any means cannot be used for legal purpose.*

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**CERVIX CANCER**

**FIGO 2018**

**Workup, Investigations & Treatment**

**Stage IA1 & Stage I A2**

**Stage IA 1**

**(Diagnosed on cone biopsy)**

Biopsy and Lab Investigations (Complete Blood Count, Liver and Renal Function Tests, HIV status) MRI abdomen and pelvis(a)(b)CECT abdomen and pelvis, if available, otherwise USG abdomen and pelvis. Chest X-ray(a)(b)

For ectocervical tumors

< 2 cm,USG alone can also be considered.

**Type B Radical hysterectomy or Radical Trachelectomy + pelvic lymphadenectomy if LVSI**

**Close observation**

**(If fertility desired**

**and**

**cone margins negative)**

**Type A Radical Hysterectomy**

**Brachytherapy alone**

**(Not fit for surgery)**

**Stage IA2**

**(diagnosed on cone biopsy)**

**Radical Trachelectomy or Radical cone**

**+ Pelvic lymphadenectomy**

**Type B Radical Hysterectomy**

**+Pelvic lymphadenectomy**

**Brachytherapy ± External beam Radiotherapy**

*BT alone: 7 Gy\* 5 Fr High dose rate or 60 Gy Low dose rate equivalent prescribed to point A.*

*EBRT and BT: EBRT dose of 45-50 Gy/25 Fr followed by BT dose of 7 Gy \* 2-3 Fr high dose rate.*

**Stages IB and IIA**

**Stages IB1-2 and IIA1**

**Stage IB1-2 & IIA1**

**If fertility desired**

**Radical trachelectomy + pelvic lymphadenectomy**

**For stage IB1, < 2cm only**

**Radical external Radiotherapy+/-concurrent cisplatin**

**Brachytherapy**

**Type C1/C2 Radical hysterectomy**

**+ pelvic lymphadenectomy**

*EBRT and BT: Aim a total of.75-80 Gy to point A or 85 Gy to High risk Clinical Target Volume in radical setting along with weekly cisplatin (40 mg/m2).Overall treatment time up-to 56 days. Ovarian transposition may be offered as indicated for preservation of hormonal function in those with squamous histology.*

**Adjuvant treatment after Radical surgery**

**Risk Assessment on detailed HPR**

**High risk (any one)**

* **Node +ve**
* **Parametrium +ve**
* **Cut margin +ve**

**Intermediate risk (any two)**

* **T> 4 cm**
* **Deep stromal invasion**
* **LVSI +ve**

**Low risk**

**(none of the above mentioned risk factors)**

**Adjuvant RT with concomitant Cisplatin CT f/b brachytherapy**

**Observation**

**Adjuvant Pelvic RT f/b Brachytherapy**

*EBRT and BT: EBRT (IMRT) dose of 45-50 Gy/25 Fr followed by BT dose of 6 Gy \* 2Fr high dose rate.*

*EBRT and BT: EBRT (IMRT)dose of 45-50 Gy/25 Fr followed by BT dose of 6 Gy \* 2Fr. Weekly cisplatin 40 mg/m2 when indicated. Overall treatment time <56 days*

**Stage IB3-IVA**

**Locally Advanced Cervix Cancer**

Biopsy and Lab Investigations (Complete Blood Count, Liver and Renal Function Tests, HIV status)/ MRI pelvis/ CECT abdomen and pelvis,if available, otherwise USGabdomen and pelvis

Chest X-ray CT Thorax in patients with Para aortic nodes (IIIC2) for adequate systemic staging

Cystoscopy /Procto-sigmoidoscopy with or without biopsy to confirm bladder / rectal mucosa involvement

**Stage IIIC2**

**Stage IB3-IIIC1**

**Radical Radiotherapy (External + Brachytherapy) + Concurrent weekly cisplatin (a)(b)**

**#**Select cases IIIC1 (Node>3cm or nodal conglomerate for NACT (P+C) 2-4 Cycles followed by CRT)

**Extended field RT\* + Concurrent weekly cisplatin (a) (b)**

**#**Select cases III C2 (Node> 3cm or nodal conglomerate for NACT (P+C) 2- 4 cycles followed by CRT)

*\*EBRT and BT: EBRT dose of 45-50 Gy/25 Fr followed by BT dose to a total dose of 80-85 Gy to point A or 85 Gy to High risk clinical target volume. Nodal EBRT boost: 6- 10 G for pathological nodes. Overall treatment time <56 Days. Image based Brachytherapy should be the preferred treatment approach when available.*

*# Neoadjuvant chemotherapy is not the preferred treatment approach due to limited evidence but should be used very selectively in cases after multidisciplinary consult. In patients not responding to NACT may be considered for palliative radiotherapy or chemotherapy*

*\*\*Weekly cisplatin 40 mg/m2*

*\*\*\*P+C – Paclitaxel 175mg/m2 + Carboplatin AUC 5/6 every 3 weekly*

**Stage IV**

**Stage IV**

*Individualized Rx*

 *Individualized Rx*

**Stage IV A**

**Stage IV B**

**Palliative Chemotherapy+**

**Palliative Radiotherapy**

**OR**

**Radical Chemo-radiation and systemic chemotherapy**

**AND**

**Ablative Radiation to Metastatic Sites**

**Palliative Care**

**Concurrent CT + RT\*\***

**Or**

**NACT (P+C) 2-3# followed by CRT**

**Palliative RT / CT**

**Pelvic Exenteration\*\*\***

**\*\****EBRT and BT: : EBRT dose of 45-50 Gy/25 Fr followed by BT dose to a total dose of 80-85 Gy to point A or 85 Gy to High risk clinical target volume. Nodal EBRT boost: 6- 10 Gy for pathological nodes. Overall treatment time <56 Days*

*Palliative RT : Dose to be decided based on indication. Common fractionation regimes: 30 Gy in 3 Fr (Once monthly), 30 Gy in 10 Fr (2 weeks), 20 Gy in 5 Fr (1 week)*

*SBRT to metastatic site: Dose to metastatic sites decided by number and site of metastasis and can be delivered in 3-6 fractions with dose ranging from 24-60 Gy as deemed appropriate for the metastatic setting.*

*Palliative Chemotherapy:*

 *Single Agent Cisplatin (30-40 mg/m2 weekly or 50-75 mg/m2 every 3 weekly)*

*Single Agent Carboplatin AUC 5 every 3 weekly*

 *Paclitaxel 175mg/m2 + Carboplatin AUC 5 every 3 weekly*

 *Gemcitabine and Carboplatin*

*\*\*\*Select Cases*

**Recurrent Pelvic Disease**

**Recurrent**

**Pelvic Disease**

**Post- surgery**

**Central Pelvic**

**Side wall or extra pelvic**

**Re-surgery\*\*\***

**Concurrent CT + RT f/b BT**

**Post- RT**

**Surgery**

**Exenteration / Hysterectomy**

**Palliative RT / CT/ OR**

**Stereotactic RT Palliative Care**

**Re-irradiation with BT/Stereotactic RT/EBRT\***

**Palliative Chemotherapy**

**Palliative Care**

**(a)(b)**

***\*\*\* Select cases***

***\*= Concurrent chemotherapy (Cisplatin) can be considered along with conventionally fractionated external radiation***

RT-Radiotherapy, BT-Brachytherapy, EBRT-External Beam Radiotherapy, CT Chemotherapy

**Recurrent Metastatic Disease**

**Recurrent**

**Metastatic Disease**

**Disseminated Disease**

**Oligo-metastatic Disease**

**Palliative Systemic therapy**

**Palliative RT**

**Palliative Systemic therapy**

**Stereotactic RT**

**Summary of Imaging Investigations and Management Recommendations for Optimal and Minimal Resource Setting in Cervix Cancer**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Disease** | **(a) Essential** | **(b)Optimal**  | **(c) Optional** | **Remarks** |
| **Pathology** | Tumor type, Grade, Depth of Invasion, LVSI | Tumor type, Grade, Depth of Invasion, LVSIIHC as Indicated |  |  |
| **Imaging and staging investigations** |  | **­­** |  |  |
| **Stage FIGO 2018** |  |  |  |  |
| Early cervical cancer (stage IA1, IA2, IB1,IB2 and IIA1) | Biopsy and Lab Investigations (Complete Blood Count, Liver and Renal Function Tests, HIV status)USG abdomen and pelvis.Chest X-rayCECT abdomen and pelvis | Biopsy and Lab Investigations (Complete Blood Count, Liver and Renal Function Tests, HIV status)MRI abdomen and pelvisChest X-ray | **---** | EUA may be done as indicated  MRI should be considered in patients who desire fertility preservation |
| Locally advancedCervical cancer (IB3,IIA2-IVA) | Biopsy and Lab Investigations (Complete Blood Count, Liver and Renal Function Tests, HIV statusCECT abdomen and pelvis,CT Thorax in patients with Para-aortic nodes (IIIC2) for adequate systemic stagingCystoscopy /Procto-sigmoidoscopy with or without biopsy to confirm bladder / rectal mucosa involvement | Biopsy and Lab Investigations (Complete Blood Count, Liver and Renal Function Tests, HIV status)MRI Abdomen and pelvisORCECT abdomen and pelvis,Chest X-rayCT Thorax in patients with Para-aortic nodes (IIIC2) for adequate systemic stagingCystoscopy /Procto-sigmoidoscopy with or without biopsy to confirm bladder / rectal mucosa involvement | PETCT may also be used to determine para-aortic nodal involvement especially in situations wherein FNAC not feasible. | EUA may be done as indicated As incidence of lymphnode metastasis is high,CECT is preferred overUSG. PET CT may be additionally used if clinically indicated.MR Pelvis may provide additional information for primary tumor including adjacent organ involvement |
| **Management** | **(a)**  | **(b)** | **(c)** | **Remarks** |
| **FIGO stage** |  |  |  |  |
| IA1 | Type A Radical Hysterectomy +/- PLND(if LVSI+) orConizationor Radical BT 60 Gyto point A. | Type A Radical Hysterectomy orConizationorRadical trachelectomy if fertility desiredor Radical BT 60 Gyto point A. |  | If diagnosis of stage IA cervical cancer in postoperative case after simple hysterectomy – may be referredfor PLND or assessmentfor the need for adjuvantpelvic RT |
| IA2 | Type B radical hysterectomyand pelvic lymphadenectomyOrRadical BT alone65-70 Gy point A. | Type B radical hysterectomyand pelvic lymphadenectomyorRadical trachelectomy and PLND iffertility is desiredOrRadical BT alone65-70 Gy point A. | Sentinel lymph node biopsy |  |
| IB1 | Type C 1/C 2 radical hysterectomy with PLND.Open surgery is the procedure of choice.orUpfront 3DCRT and BT with or without chemotherapy followed by Image based 3D Brachytherapy with prescription to Point A (75-85Gy) or High Risk CTV (85Gy).Postoperative adjuvant radiation in those with postoperative two of three intermediate risk factors (size > 4 cm, LVSI, deep stromal infiltration).Concurrent chemotherapy to be added in the case of any high-risk features (vaginal cut margins, lymph nodes, or parametria positive).IMRT represents the current standard of care for postoperative RT (45-50Gy/25#/5 weeks). Additional BT should be considered after EBRT (12 Gy/2# High dose Rate BT only if vaginal cut margins positive or vaginal cuff margins compromised. Image based BT planning is recommended.3DCRT may be considered only when IMRT not feasible due to patient logistics or no provisions for referrals. Patients with adenocarcinoma and > 2cm in size and an additional risk factor may be considered for adjuvant radiation | Type C 1/C 2 radical hysterectomy with PLND.Open surgery is the procedure of choice.Intraoperative frozen section facility Upfront 3DCRT and BT with or without chemotherapy followed by Image based 3D Brachytherapy with prescription to Point A (75-85Gy) or High Risk CTV (85Gy).Postoperative adjuvant radiation in those with postoperative two or three intermediate risk factors (size > 4 cm, LVSI, deep stromal infiltration).Concurrent chemotherapy (weekly Cisplatin 40 mg/m2 X5 weeks) to be added in the case of any high-risk features (vaginal cut margins, nodes, or parametria positive).Image guided IMRT represents the current standard of care for postoperative RT (45-50Gy/25#/5 weeks). Additional BT should be considered after EBRT (12 Gy/2# High dose Rate BT only if vaginal cut margins positive or vaginal cuff margins compromized . Image based BT planning is recommended.Patients with adenocarcinoma and > 2cm in size and an additional risk factor may be considered foradjuvant radiation | Sentin el lymph node biopsyRadical trachelectomy andPLND in suitablecases of stage IB1, if fertility is desired.Intensity Modulated Radiotherapy may be associated with reduced acute and late toxicity. | Preoperative thoroughassessment of size,parametrial involvement,and nodal status isrecommended to avoidadjuvant treatment.Patients with nodes > 1 cm on imaging in size should be considered as stage IIIC1r and image guided Biopsy/FNAC may be done to prove nodal metastases and may be offered upfront CTRT.If the decision is made to operate in the presence of equivocal nodes on imaging then frozen section should be used to assess nodes and decide on further evaluation of nodes. Hysterectomy should beabandoned if nodes arepositive on frozen section |
| IB2 and IIA1 | Type C 1/C 2 radical hysterectomy with PLND.Open surgery is the procedure of choice.orUpfront 3DCRT and BT with or without chemotherapy followed by Image based 3D Brachytherapy with prescription to Point A (75-85Gy) or High Risk CTV (85Gy).Postoperative adjuvant radiation in those with postoperative two of three intermediate risk factors (size > 4 cm, LVSI, deep stromal infiltration).Concurrent chemotherapy to be added in the case of any high-risk features (vaginal cut margins, lymph nodes, or parametria positive).IMRT represents the current standard of care for postoperative RT (45-50Gy/25#/5 weeks). Additional BT should be considered after EBRT (12 Gy/2# High dose Rate BT only if vaginal cut margins positive or vaginal cuff margins compromized . Image based BT planning is recommended.3DCRT may be considered only when IMRT not feasible due to patient logistics or no provisions for referrals. Patients with adenocarcinoma and > 2cm in size and an additional risk factor may be considered foradjuvant radiation | Type C 1/C 2 radical hysterectomy with PLND.Open surgery is the procedure of choice.orUpfront 3DCRT and BT with or without chemotherapy followed by Image based 3D Brachytherapy with prescription to Point A (75-85Gy) or High Risk CTV (85Gy).Intraoperative frozen section facilityPostoperative adjuvant radiation in those with postoperative two or three intermediate risk factors (size > 4 cm, LVSI, deep stromal infiltration).Concurrent chemotherapy to be added in the case of any high-risk features (vaginal cut margins, nodes, or parametria positive). Image guided-IMRTrepresents the current standard of care for postoperativeRT (45-50Gy/25#/5 weeks).Additional BT should be considered after EBRT (12 Gy/2# High dose Rate BT . Image based planning recommended.Patients with adenocarcinoma and > 2cm in size and an additional risk factor may be considered foradjuvant radiation | sentinel lymph node biopsyIntensity Modulated Radiotherapy may be associated with reduced acute and late toxicity. | Preoperative thoroughassessment of size,parametrial involvement,and nodal status isrecommended to avoidadjuvant treatment.Patients with nodes > 1 cm on imaging in size should be considered as stage IIIC1r and image guided Biopsy/FNAC may be done to prove nodal metastases and may be offered upfront CTRT.If the decision id made to operate in the presence of equivocal nodes on imagingthen frozen section should be used to assess nodes and decide on further evaluation of nodes. Hysterectomy should beabandoned if nodes arepositive on frozen section |
| IB3,IIA2,IIB,IIIA,IIIB | Concurrent pelvic chemo-radiation (3DCRT) with prescription to a biologically cumulative dose to Point A (80-85 Gy) or High risk CTV (85 Gy).Image based (orthogonal X-rays atleast) BT planning is recommended. Concurrent weekly cisplatin (40 mg/m2) during external radiation. | Concurrent pelvic chemo-radiation (3DCRT) and 3D Image based (preferably MR/ CT based) BT to a biologically cumulative dose of 80 - 85 Gy to HRCTV. Concurrent weekly cisplatin (40 mg/m2) during external radiation. | Radical RT alone (in patients who are unable to tolerate concurrentChemo-radiation as a result of low creatinine clearance or advanced age) | No prophylactic stentingis recommended inpatients with IIIB andhydroureteronephrosis.Percutaneous nephrostomyand DJ stenting should be avoided in patients with deranged creatinine> 3 g/dL; such patientsshould be considered forpalliative hypo-fractionatedRT. |
| IIIC1 | Concurrent pelvic chemo-radiation (3DCRT) with prescription to a biologically cumulative dose to Point A (80-85 Gy) or High risk CTV (85 Gy).Image based (orthogonal X-rays atleast) BT planning is recommended. Concurrent weekly cisplatin (40 mg/m2) during external radiation.Patients with positive nodes should be considered for nodal dose escalation to pathological nodes to 55-60 Gy equivalent. | Concurrent pelvic chemo-radiation (3DCRT) and 3D Image based (preferably MR/ CT based) BT to a biologically cumulative dose of 80 - 85 Gy to HRCTV. Concurrent weekly cisplatin (40 mg/m2) during external radiation.Patients with positive nodes should be considered for nodal dose escalation to pathological nodes to 55-60 Gy equivalent using Image guided Intensity Modulated Radiotherapy with integration for nodal boost (simultaneous/ sequential)  | Radical RT alone followed by brachytherapy(in patients who are unable to tolerate concurrentChemo-radiation as a result of low creatinine clearance or advanced age) | Use of neo-adjuvant chemotherapyis not routinely recommended. However, may be discussed within multidisciplinary team if patients have nodal conglomerates> 3 cm in diameter wherein poor response is anticipated to concurrent chemo-radiation. |
| IIIC2 | Extended field radiation with concurrent cisplatin (40 mg/m2) and Image based (BT to a biologically cumulative dose of 80 - 85 Gy to point A or HRCTV. Patients with positive nodes should be considered for nodal dose escalation to pathological nodes to 55-60 Gy equivalent. | Extended field radiation with concurrent cisplatin (40 mg/m2)and 3D Image based (preferably MR based) BT to a biologically cumulative dose of 80 - 85 Gy to HRCTV. Patients with positive nodes should be considered for nodal dose escalation for pathological nodes to 55-60 Gy equivalent preferably with Image Guided IMRT |  ---- | Use of neo-adjuvant chemotherapyis not routinely recommended. However, may be discussed within multidisciplinary team if patients have nodal conglomerates> 3 cm in diameter wherein poor response is anticipated to concurrent chemo-radiation. |
| IVA | If focal bladder/rectal infiltration, then upfront pelvic chemo-radiation (3DCRT). Cystoscopy/ Rectosigmoidoscopy evaluation to assess response followed by Image based BT is recommendedorRadical RT alone (in patients who are unable to tolerate concurrentChemo-radiation as a result of low creatinine clearance or advanced age)If nodal disease is also present nodal dose escalation to 55-60 Gy may be considered. IMRT may be utilized if availablePatients with focal bladder/rectal infiltration and additional large para-aortic nodes may be considered for 2-4 cycles of neo-adjuvant chemotherapy followed by re-evaluationwith cystoscopy / recto-sigmoidoscopy and nodal response, then decideon extended-field radiation and concurrent chemotherapy followed by BT*. If poor response then consider* palliative RT.Patients with frank bladder / rectalinfiltration may be considered for upfront palliative RT and/or palliative chemotherapy.Palliative care reference should be done early on in patients who are planning for palliative treatmentPain Clinic referral to be made for optimal pain control | If focal bladder/rectal infiltration, then upfront pelvic chemo-radiation (3DCRT / Image guided IMRT). Cystoscopy/ Rectosigmoidoscopy evaluation to assess response followed by Image based BT(preferably with MR /CT) is recommendedorRadical RT alone (in patients who are unable to tolerate concurrentChemo-radiation as a result of low creatinine clearance or advanced age)If nodal disease is also present nodal dose escalation to 55-60 Gy may be considered. In such a case IMRT should be considered.Patients with focal bladder/rectal infiltration and additional large para-aortic nodes may be considered for 2-4 cycles of neo-adjuvant chemotherapy followed by re-evaluationwith cystoscopy / recto-sigmoidoscopy and nodal response, then decideon extended-field radiation and concurrent chemotherapy followed by BT*. If poor response then consider* palliative RT.Patients with frank bladderinfiltration may be considered for upfront palliative RT and/or palliative chemotherapy.Palliative care reference should be done early on in patients who are planning for palliative treatmentPain Clinic referral to be made for optimal pain control | Select patients with IVA disease may be considered for exenteration after pelvic RT, depending on treatmentresponse, patient wishes, and theavailability ofinfrastructure andexpert | Neoadjuvant chemotherapy is not the standard of care but 2-4 cycles of paclitaxel and carboplatin may be considered after discussion in multidisciplinary team. |
| IVB | Palliative chemo and Palliative RT to metastatic sites.Paclitaxel (80 mg/m2 weekly or 175 mg/m2 q 3 weekly), Cisplatin (30-40 mg/m2 weekly, 50-75 mg/m2 q 3 weekly), Carboplatin (AUC 5/6every 3 weekly ), Gemcitabine (1000mg/m2 D1, D8 every 3 weekly), are active agents that can be considered in combination or as single agent either upfront or after progression on first line chemotherapy. Up-to 6 cycles in first line setting are considered optimal.Palliative care reference should be done early on in patients who are planning for palliative treatmentPatients with good performance status and oligo-metastasis ( including nodal other than pelvic/para-aortic) may be considered for radical doses of involved field RT and Brachytherapy in addition to systemic chemotherapy.Stereotactic Radiation to oligo-metastatic sites (individualized approach based on site and volume) may be discussed if available. | Palliative chemo and Palliative RT to metastatic sites.Paclitaxel (80 mg/m2 weekly or 175 mg/m2 q 3 weekly), Cisplatin (30-40 mg/m2 weekly, 50-75 mg/m2 q 3 weekly), Carboplatin (AUC 5/6every 3 weekly ), Gemcitabine (1000mg/m2 D1, D8 every 3 weekly) are active agents that can be considered in combination or as single agent either upfront or after progression on first line chemotherapy. Up-to 6 cycles in first line setting are considered optimal.The use of targeted agents such as Bevacizumab (in addition to Paclitaxel and Carboplatin in first line Metastatic setting is an option in select patients.Palliative care reference should be done early on in patients who are planning for palliative treatmentPatients with good performance status and oligo-metastasis (including nodal other than pelvic/para-aortic) may be considered for radical doses of involved field RT (3DCRT /IMRT) and Image based (CT/MR) Brachytherapy in addition to systemic chemotherapy.Stereotactic Radiation to oligo-metastatic sites (individualized approach based on site and volume)  |  Immunotherapy (Pembrolizumab 200 mg every 3 weekly).remains optionalThe use of Pembrolizumab in second line setting is approved in PDL1 positive (CPS PDL1 ≥1)populationThe addition Pembrolizumab to Paclitaxel and Carboplatin /Cisplatin in first line metastatic or recurrent cervical cancer is an option in CPS PDL1 ≥1 | -Recommendations for stage IV B disease have been modified in 2019 on the basis of large database analysis demonstrating survival benefit of local treatment and Phase II RCT demonstrating survival benefit of stereotactic RT to oligo metastatic sites. |

**EPITHELIAL OVARIAN CANCER (LEVELS OF EVIDENCE IN PARENTHESES)**

**Diagnosis**

* Symptoms of bloating, dyspepsia, nausea, constipation, distension, abdominal or pelvic pain, urinary frequency or urgency
* Palpable pelvic or abdominal mass
* Ascites/pleural effusion

**Work Up & Investigations**

* Personal and family history
* Complete History including

- Change of bowel habits, bleeding per rectum, weight loss or jaundice

 - Any breast lump

- Menstrual History -In young women history of primary amenorrhea.

* Thorough clinical examination including pelvic and per rectal examination. To also do clinical breast examination and especially look for any supraclavicular lymph node.
* Haematological and biochemical investigations
* Serum tumor markers: CA-125, CEA, CA 19.9 (Ca 19.9-(c))

(In patients <40 years to also do AFP, βHCG, S LDH, S Inhibin B if indicated)

* Contrast CT scan of abdomen and pelvis and chest X-ray (a) (b).CT scan of the chest if clinically indicated or Germ Cell tumor is suspected.
* Upper and Lower GI endoscopy if clinically indicated eg.
* If History /examination suggestive of GI involvement
* If there is only ascites and no adnexal mass seen on imaging
* Bilateral solid adnexal masses
* CA 125 : CEA <25
* Ascitic fluid/ pleural fluid cytology (if present).
* Cell block preparation for IHC may be done (IHC (c))
* If disease is confined to the ovary and /or primary surgery is planned FNAC/ Biopsy of the mass if primary surgery **not** indicated. Biopsy or FNAC to be done only in advanced disease where primary surgery not planned.
* Genetic Testing for BRCA 1 and 2 in case family history suggestive. Consider in all high grade non mucinous epithelial ovarian carcinoma (c)

**Treatment**

**PRIMARY TREATMENT (Levels of evidence in parentheses)**

Clinical early stage Clinical advanced stage

\*Surgery –Staging Laparotomy \*Surgery 3# NACT (selected Stage IIIC/IV) **(1)**

 Primary cyto-reduction

Low Risk ¶ High Risk¶¶ \*Surgery Interval

 Cyto-reduction

Observation \*\* 6# Adjuvant chemotherapy (CT)\*\* 3# Adjuvant CT

\*\*\*Follow-up \*\*\*Follow-up \*\*\*Follow-up

¶ Low Risk- Stage IA/IB , Grade 1, Non-Clear cell Histology

¶¶ High Risk – Stage IA/IB, Grade 2/3, Clear cell histology, Stage IC, Stage II

\* Pathology- Grossing and complete reporting of the surgical specimen should be done.

\*\***Chemotherapy -**

* Six cycles of paclitaxel 175 mg/m2 and carboplatin AUC 5/6 every 3 weekly is the standard adjuvant chemotherapy.

 In early stage ovarian cancer where chemotherapy is indicated, can consider 6 cycles single agent carboplatin or 3 cycles of paclitaxel and carboplatin. (However in high grade serous carcinoma consider 6 cycles of Paclitaxel and Carboplatin)(a)(b)

* Three cycles of neoadjuvant chemotherapy followed by interval de-bulking surgery and 3 cycles of adjuvant platinum based chemotherapy is an appropriate option for patients with bulky stage IIIC or IV ovarian carcinoma.(a)(b)
* Bevacizumab 15 mg/kg or 7.5 mg/kg – This is approved for adjuvant use with adjuvant chemotherapy followed by maintenance in those with advanced ovarian cancer (c)
* PARP inhibitors – Olaparib 300 mg twice a day X2 years in those with advanced ovarian cancers with BRCA mutations

\*\*\*Follow-up-Clinical Evaluation, CA 125 and imagining where clinically indicated.

**RELAPSED OVARIAN CANCER (Levels of evidence in parentheses)**

\* Platinum refractory/resistant∂ \*\*Platinum Sensitive RelapseΔ

\*Single agent Chemotherapy/Best supportive care \*\* Platinum based combination Chemotherapy

∂No response or progression on previous platinum therapy or progression within 6 months of its completion

ΔProgression more than 6 months after completion of previous platinum chemotherapy

Addition of bevacizumabor PARP inhibitors based on appropriate indications if feasible after risk benefit assessment

Radiotherapy in localised pelvic relapse in platinum resistant or refractory patients

**Summary of Imaging and Management Recommendations for Optimal and Optional Resource Setting**

|  |  |  |  |
| --- | --- | --- | --- |
| **DiseasIa)(b)Essential** | **(b)Optimal** | **(c) Optional** | **Remarks** |
|  |  |  |  |  |
| **Staging Work up and Investigations** |  |  |  |  |
| FIGO Early Stage I/II | CECT Abdomen + Pelvis Chest X-ray (CECT Thorax if indicated) | CECT Abdomen + Pelvis Chest X-ray (CECT Thorax if indicated) | MRI Abdomen and PelvisPET-CT/PET-MRI | MRI may help to better characterise benign from malignant ovarian lesion |
| Locally advancedStage III/IV | CECT Abdomen + Pelvis Chest X-ray (CECT Thorax if indicated) | CECT Abdomen + Pelvis Chest X-ray (CECT Thorax if indicated) | Staging Laparoscopy to determine operabilityPET-CT/PET-MRI | **---** |
| Recurrent | CECT Abdomen + Pelvis Chest X-ray (CECT Thorax if indicated)USG abdomen and Pelvis | CECT Abdomen + Pelvis Chest X-ray (CECT Thorax if indicated)USG abdomen and Pelvis | PET-CT | PET CT may be considered if planning secondary cyto-reduction  |
|  |  |  |  |  |
| **Tumor Markers** | CA 125, CEAAFP, β hcg, LDHInhibin B | CA 125, CEA, CA19.9AFP, β hcg, LDHInhibin B | HE4 | AFP, β hcg, LDHInhibin B as indicated |
|  |  |  |  |  |
| **Other work up**  | CBC, LFT, RFT, Serum electrolytes, ECG | CBC, LFT, RFT, Serum electrolytes, ECG | \*S Iron, TIBC,S Ferritin, B12, Folate, ECG 2DECHO | \*if Clinically indicated |
|  |  | \*B/L MammogramUpper GI endoscopyLower GI endoscopy |  | \*If clinically indicated to rule out Krukenberg tumor |
| **Intervention Radiology** |  |  |  |  |
| **Pathology**  | Ascitic fluid cytology in advanced cancersGrossing and complete reporting of the surgical specimen should be doneImage guided biopsy /FNAC if indicated (in advanced cancers)Pathology reporting Tumour type, grade | Ascitic fluid cytology in advanced cancersGrossing and complete reporting of the surgical specimen should be doneImage guided biopsy /FNAC if indicated (In advanced cancers)-Ascitic fluid cell block and IHC-Intra op Frozen in early cancersPathology reporting Tumour type, gradeIHC markers as indicated |  |  |
|  |  |  |  |  |
| **Genetic Testing**  | --- | Genetic counselling and testing to be offered to all non mucinous epithelial ovarian cancers  |  | ---- |
| **Epithelial Ovarian Cancer Management** |  |  |  |  |
| **FIGO stage** |  |  |  |  |
| **Early Stage**  |  |  |  |  |
| **Clinically Stage I/II** |  |  |  |  |
| Surgery | Primary Surgery(Peritoneal fluid /wash cytology, systematic exploration of the abdomen and pelvis, multiple peritoneal biopsies, total abdominal hysterectomy with bilateral salpingo-oophorectomy, omentectomy, nodal staging (if indicated) with systematic pelvic and para aortic lymphadenectomy). | Primary Surgery(Peritoneal fluid/wash cytology, systematic exploration of the abdomen and pelvis, multiple peritoneal biopsies, total abdominal hysterectomy with bilateral salpingo-oophorectomy, omentectomy, nodal staging (if indicated) with systematic pelvic and para aortic lymphadenectomy). |  | Conservative surgery i.e. unilateral salpingo-oophorectomy with preservation of the normal contralateral ovary and uterus may be considered in young patients desirous of child bearing with stage IA, low grade disease or borderline tumours. |
|  |  |  |  |  |
| Adjuvant Chemotherapy | 3- 6 cycles of Paclitaxel175 mg/m2 and Carboplatin AUC 5 or 6 every 3 weekly (High grade serous- 6 preferred) OR6 cycles of Single Agent Carboplatin AUC 5 or 6 every 3 weekly (Weekly Paclitaxel 80 mg/m2 and Carboplatin AUC 2 is also an option) | 3- 6 cycles of Paclitaxel175 mg/m2 and Carboplatin AUC 5 Or 6 every 3 weekly (High grade serous- 6 preferred) OR6 cycles of Single Agent Carboplatin AUC 5 Or 6 every 3 weekly (Weekly Paclitaxel 80 mg/m2 and Carboplatin AUC 2 is also an option) | **----** | ---- |
|  |  |  |  |  |
| Advanced Stage |  |  |  |  |
|  |  |  |  |  |
| Surgery | Primary Cyto-reductive surgery OR3-4 cycles NACT followed by Interval Cyto-reduction | Primary Cyto-reductive surgery OR3-4 cycles NACT followed by Interval Cyto-reduction | **HIPEC** | NACT vs Primary Surgery- similar survival outcome with less surgical morbidity with NACTPatient selection for primary debulking surgery over NACT based on Patient factors (Poor performance status, low albumin, multiple comorbities, recent Venous Thromboembolism , advanced stage and age); disease factors (radiological – miliary disease over small bowel surface/mesentry, porta hepatis nodes, stage IVB bulky disease, root of mesentry involvement) and infrastructure ( availability of intensive care, intensivist, interventional radiologist)  |
|  |  |  |  |  |
| Chemotherapy |  6 cycles of Paclitaxel 175mg/m2 and Carboplatin AUC 5 OR 6(May go up-to maximum 8 cycles)(Weekly Paclitaxel 80 mg/m2 and Carboplatin AUC 2 is also an option)- Those with poor performance status or co morbidities single agent Carboplatin is an option  | 6 cycles of Paclitaxel 175mg/m2 and Carboplatin AUC 5 OR 6(May go up-to maximum 8 cycles)(Weekly Paclitaxel 80 mg/m2 and Carboplatin AUC 2 is also an option)- Those with poor performance status or co morbidities single agent Carboplatin is an option | \*-Intraperitoneal Chemotherapy- HIPEC -Bevacizumab in stage IV disease /those not optimally cyto-reduced-PARP inhibitors (Germline BRCA mutated) | \*Note-Are approved drugs but cost benefit ratio to be discussed with patients |
|  |  |  |  |  |
| **Recurrent** |  |  |  |  |
|  |  |  |  |  |
| Serological relapse | Observation If asymptomatic  | Observation If asymptomatic  | **----** | CT scan may be done in asymptomatic patients with rising CA125 and those without significant disease can be kept under observation |
|  |  |  |  |  |
| Chemotherapy  | Platinum Sensitive-Platinum based doublet –Paclitaxel 175mg/m2 q 3 weekly/ liposomal doxorubicin 30 mg/m2 q 4 weekly/ Gemcitabine 1000mg /m2 D1,D8 q 3 weeklyWith Carboplatin AUC 5 q 3 weekly(AUC 2 weekly) OR Cisplatin 60-75 mg/m3 q 3 weekly (or30-37.5 mg/m2 weekly D1,D8 q 3 weekly)Platinum Resistant-Oral Etoposide 50mg/m2 D1-21 q 28 days-Liposomal Doxorubicin 40 mg/m2 q 4 weekly -Weekly Paclitaxel 80mg/m2 weekly | Platinum Sensitive-Platinum based doublet –Paclitaxel 175mg/m2 q 3 weekly/ liposomal doxorubicin 30 mg/m2 q 4 weekly/ Gemcitabine 1000mg /m2 D1,D8 q 3 weeklyWith Carboplatin AUC 5 q 3 weekly(AUC 2 weekly) OR Cisplatin 60-75 mg/m3 q 3 weekly (or30-37.5 mg/m2 weekly D1,D8 q 3 weekly)Platinum Resistant-Oral Etoposide 50mg/m2 D1-21 q 28 days-Liposomal Doxorubicin 40 mg/m2 q 4 weekly -Weekly Paclitaxel 80mg/m2 weekly | \*Bevacizumab 15 mg/kg #PARP inhibitors Olaparib 300 mg BDRucaparib 600 mg BD\*BevacizumabTopotecan | \*#Are approved drugs but cost benefit ratio to be discussed with patients# PARPi as maintenance in those who have received ≥ 2 prior lines of platinum based chemotherapy and had a response to last platinum therapy irrespective of BRCA status (the magnitude of benefit though is maximum in those with BRCA mutation)In patients with germline BRCA mutation with platinum sensitive relapse who have received ≥3 lines of platinum based chemotherapy, PARPi monotherapy is an option (Though platinum based doublet remains the standard of care) |
|  |  |  |  |  |
|  | Secondary Cyto-reduction if indicated\* | Secondary Cyto-reduction if indicated\* | Palliative surgery or emergency surgery if indicated (bowel perforation/obstruction) | \*If patient fulfils AGO criteria ( good PS, no or minimal ascites and optimal surgery at time of primary surgery)  |
|  |  |  |  |  |
| RT | Palliative RT in symptomatic patients | In patients with platinum resistant or refractory disease and not planned for palliative surgery focal RT may be considered in localised pelvic relapsePalliative RT based on symptoms | Definiteve RT+/-BT in patients with pelvic recurrenc e not amenable to further surgery or chemotherapy. | --- |
|  |  |  |  |  |
| Palliative Care | Palliative Care in those with advanced recurrent disease with or without systemic therapy | Palliative Care in those with advanced recurrent disease with or without systemic therapy | **---** | --- |
|  |  |  |  |  |
| **GERM CELL TUMORS Management** |  |  |  |  |
|  |  |  |  |  |
| **Surgery** | Fertility sparing surgery(Unilateral salpingo oophorectomy)+ Staging Procedure• The staging procedure includes infracolic omentectomy, biopsy of the diaphragmatic peritoneum, paracolic gutters, pelvic peritoneum and peritoneal washings | Fertility sparing surgery(Unilateral salpingo oophorectomy)+ Staging Procedure• The staging procedure includes infracolic omentectomy, biopsy of the diaphragmatic peritoneum, paracolic gutters, pelvic peritoneum and peritoneal washings | •  | Fertility sparing surgery should be considered even in advanced casesIn postmenopausal women with advanced-stage disease or with bilateral ovarian involvement, abdominal hysterectomy and bilateral salpingo-oophorectomy could be carried out.Uterus may be preserved in advanced case if normal. |
|  |  |  |  |  |
| **Chemotherapy** | \*3 -4 cycles of BEPOR 4 cycles of EP (early stage)Bleomycin 30 U (18U/m2) D1,8,D15 Etoposide 100mg/m2 D1-D5CDDP 20 mg/m2 D1-D5ecvery 21 days | \*3 -4 cycles of BEPOR 4 cycles of EP (early stage)Bleomycin 30 U (18U/m2) D1,8,D15 Etoposide 100mg/m2 D1-D5CDDP 20 mg/m2 D1-D5every 21 daysIn patients with Bleomycin toxicity/ contraindication VeIP may be used | **----** | Avoid bleomycin in those greater than 40\*Stage IA Dysgerminoma and Stage IA GI teratoma No adjuvant chemotherapy-4 cycles of BEP in advanced stages III/IV |
| **Recurrent Germ Cell Tumors**  | Referral to a centre with Optimal facilities | TIP (Paclitaxel 250 mg/m2 D1 as a 24 hour infusion, Ifosfamide 1200mg/m2 D2-D6 with MesnaCisplatin 20 mg /m2 D2-D6 with appropriate premedication and Growth factor support .Cycle to be repeated every 21 days X4 cycles)VeIP Vinblastine 0.11 mg/kg D1 and D2Ifosfamide 1200 mg/m2 D1-D5With MesnaCisplatin 20 mg/m2 with appropriate premedication and Growth factor supportCycle to be repeated every 21 days X4 cycles)GemOxPacli (Gemcitabine 800mg/m2, D1, D8, Paclitaxel 80 mg /m2 D1, D8, Oxaliplatin 130 mg/m2 D1, with premedication and growth factor support as needed. Cycle to be repeated every 21 days  |  |  |
| **Radiotherapy** | Palliative RT in patients with metastasis or recurrent and chemorefractory status and not eligible for surgical treatment. |  |  |  |
| **GRANULOSA CELL TUMORS** |  |  |  |  |
| Surgery | Comprehensive surgical staging (TAH + BSO + debulking of enlarged pelvic lymph nodes if indicated)Fertility sparing surgery if indicated | Comprehensive surgical staging (TAH + BSO + debulking of enlarged pelvic lymph nodes if indicated)Fertility sparing surgery if indicated | **---** | Endometrial biopsy may be considered |
|  |  |  |  |  |
| Chemotherapy | \*3-4 cycles of BEP OR4# EPBleomycin 30 U (18U/m2) D1,8,D15 Etoposide 100mg/m2 D1-D5CDDP 20 mg/m2 D1-D5ecvery 21 days OR 6 cycles of Paclitaxel 175mg/m2+ Carboplatin AUC 5 OR 6 every 3 weekly | \*3-4 cycles of BEP OR4# EPBleomycin 30 U (18U/m2) D1,8,D15 Etoposide 100mg/m2 D1-D5CDDP 20 mg/m2 D1-D5ecvery 21 days OR 6 cycles of Paclitaxel 175mg/m2+ Carboplatin AUC 5/6 every 3 weekly | **----** | \*Granulosa Cell – Stage IA -IC1 – Observation IC2/3- May be kept on active surveillance/ chemotherapy Rest need adjuvant chemotherapySertoli Leydig cell Tumor-Stage IA – without poorly differentiated or heterologous elements \_ Follow up* IA with poorly differentiated and heterologous elements and any stage >IA need chemotherapy
 |

**ENDOMETRIAL CANCER**

**Diagnosis & Workup**

Postmenopausal/ Abnormal Vaginal Bleeding (PAP smear as indicated)

Transvaginal USG for Endometrial Thickness (ET)

≥5mm/Mass in Endometrial cavity regardless of thickness

<5mm

Endometrial biopsy +/- Hysteroscopy

Close observation or an immediate biopsy at discretion of clinician

Histopathology +/-IHC

Atypical Hyperplasia

Endometrial cancer

Negative for malignancy

Management by a general gynaecologist

**Investigations**

Endometrial cancer

Advanced stage

Clinically early stage

CECT Abdomen + Pelvis+ Thorax or whole body PET-CT$$

Imaging – X ray chest

USG or MRI or CE-CT scan (Abdomen & pelvis)

Operable

 Not suitable for surgery

Surgery\*\*

Chemotherapy 3-4 cycles

 Reassess for Surgery

 Not suitable for Surgery

 Suitable for Surgery\*\*

Continue chemotherapy –

Total 6 cycles

Palliative RT or hormonal Rx

Palliative care

MSI High after standard lines of therapy- Immunotherapy Pembrolizumab an option

HER 2 positive \_trastuzumab an option

Detailed Histopathology Report includingIHC asindicated

$$: PET-CT should not be done in early lesions.

\*\* TH+ BSO is the minimum standard.

Lymph nodal dissection in patients with high risk features based on pre- or intra-operative assessment

**Treatment**

\*\*Surgery

|  |  |
| --- | --- |
| StageIA, G1 | TH BSO# |
| Stage IA G2/3, IB G1 | TH BSO +/-Pelvic Lymphadenectomy |
| Stage IB G2/3 | TH BSO pelvic lymphadenectomy +/-paraaortic lymphadenectomy |
| Stage II | TH BSO/Type 2 Radical Hysterectomy &pelvic lymphadenectomy ± paraaortic lymphadenectomy |
| Serous histology | TH BSO + pelvic and paraaortic lymphadenectomy and infracolic omentectomy |

#Normal appearing ovaries may be preserved in a young patient for fertility preservation after counselling and explaining associated risks.

Fertility preservation: In young patients, disease limited to endometrium, Grade I, endometriod histology, ER/PR Positive, and P53 negative. Counselling for the associated risks is mandatory.A pre-treatment MRI is mandatory to evaluate local extent of disease and status of ovaries. Treatment is done by high dose progesterone with frequent response monitoring at 2-3 monthly interval. The efficacy of progesterone containing IUDs alone is not proven in invasive endometrial cancer.

TH BSO: Total Hysterectomy Bilateral Salpingoophorectomy (Open/ Laparoscopic/ Robotic)

**Post-operative Risk Group Stratification for Adjuvant Therapy ^^**

|  |  |
| --- | --- |
| **Risk Group** | **Description** |
| **Low risk** | Stage I endometrioid, grade 1–2, <50% myometrial invasion, LVSI negative |
| **Intermediate risk** | Stage I endometrioid, grade 1–2, ≥50% myometrial invasion, LVSI negative |
| **High-Intermediate risk** | Stage I endometrioid, grade 3, <50% myometrial invasion, regardless of LVSI statusStage I endometrioid, grade 1–2, LVSI unequivocally positive, regardless of depth of invasion |
| **High Risk** | Stage I endometrioid, grade 3, >50% myometrial invasion, regardless of LVSI statusStage II Stage III endometrioid, no residual disease Non endometrioid (serous or clear cell or undifferentiated carcinoma, or carcinosarcoma) |
| **Advanced** | Stage III residual disease and stage IVA |
| **Metastatic** | Stage IVB |

^^ESMO-ESGO-ESTRO Consensus Guidelines on Endometrial cancer-version 2015

**Adequate Surgery\*\***

Stage I & II EEC

IA

IB

Observe

LVSI

G1/G2

G3

N

Y/NR

EBRT

VBT

LVSI

VBT or EBRT

N

Y/NR

 EBRT+VBT

VBT

II

G1/G2

G3

LVSI

N

Y/NR

EBRT

LVSI

N

Y/NR

**Adequate Surgery**: Stage III EEC

Chemotherapy (Paclitaxel and Carboplatin): 4- 6 Cycles +/- Radiation therapy +/- Concurrent Cisplatin (Sequencing can be as per Institutional Practice)

IIIC2

IIIC

IIIC1

IIIA/B

Stage IV: EEC

IV A

IVB

Chemotherapy (Paclitaxel 175mg/m2+

Carboplatin AUC 5-6x 6 cycles)

+/- Palliative RT / Symptomatic treatment

Hormone therapy if ER/PR +ve

Immunotherapy an option if indicated and feasible

omatic Rx

Consider Hormone Therapy if ER/PR positive

individualization of treatment

Chemotherapy (Paclitaxel 175mg/m2 +Carboplatin AUC 5-6 x 6 cycles)

+/-Debulking Sx

Followed by Pelvic +/-Para-aortic RT

 **Inadequate Surgery \*\*\***

Adjuvant treatment as per ‘adequate surgery’ guidelines

Stage I & II EEC

IA

IB

II

G1/G2

G3

LVSI

EBRT+VBT

LVSI

EBRT

VBT

N

Y/NR

LVSI

G1/G2

G3

Consider staging surgery

EBRT

N

Y/NR

Observe

EBRT or VBT

\*\*\*Unilateral Salpingo-oophorectomy/ No Salpingo-oophorectomy/Lymph node dissection not done.

**Histology Based Treatment**

Type II Histology

(serous, clear cell, carcino-sarcoma, mucinous undifferentiated)

Yes

Clinically Stage III/IV

Adequate Surgery: Stage I/II

Cytoreductive surgery with the goal to achieve complete cytoreduction

No

Surgery feasible

Chemotherapy (Paclitaxel 175mg/m2+

Carboplatin AUC5-6x 4 cycles)

 +/- Radiotherapy (brachy and/or EBRT)with Concurrent Cisplatin

Chemotherapy +/- Interval Surgery+/-pall RT

ln-operable Ca Endometrium

Pelvic RT+ Brachytherapy +/- Chemotherapy

+/ - Hormone Therapy!

Follow up for loco-regional or distant

Recurrence and treat accordingly

!: If ER/PR we consider megestrol acetate 160 mg/ day or Aromatase Inhibitor (example letrozole 2.5 mg /day)

 Unfit for Surgery

Early

Pelvic EBRT +Brachytherapy

Chemotherapy (Paclitaxel 175mg/m2+

Carboplatin AUC5-6x 4 cycles

f/b Pelvic EBRT +/- Para-aortic EBRT +Brachytherapy

Advanced

Adjuvant setting:

BT only: 7 Gy\* 3Fr

EBRT: 45-50 Gy in 25 Fr

Definitive setting:

EBRT: 45-50 Gy in 25 Fr followed by Intra-cavitary BT (Total EQD2 dose depends on Stage at presentation)

Physical Exam: 3- 4 monthly for 2 years, 6 monthly for next 3 years, annually after 5 years

Vaginal cytology in patients who have not received radiotherapy

I Imaging may be considered as per clinical indications

Distant Metastasis

s

Prior RT

Follow Up Algorithm

Local Recurrence

Yes

No

Radical RT+/- CT

Unresectable

Resectable

ectable

RT+/-BT/Palliative CT and/or Palliative R

 hormonal therapy

CT/ Hormone Therapy!/!/Immunotherapy/Targeted therapy++/- Palliative RT

(Surgery may be considered in patients withisolated metastasis with longdisease-free interval)

Consider surgery in selected cases+/-chemotherapy and/or hormonal therapy

!:If ER/PR+veconsidermegestrolacetate160mg/day or Aromatase Inhibitor(exampleletrozole2.5mg/day)

Chemotherapy –Paclitaxel and Carboplatin, Gemcitabine and carboplatin, Liposomal Doxorubicin

MSI High after standard lines of therapy- Immunotherapy Pembrolizumab

Trastuzumab in HER2 positive tumours

|  |  |
| --- | --- |
|  | **Summary of Imaging and Management Recommendations for Endometrial Cancers** |
|  | **(a)Essential** | **(b)Optimal**  | **(c)Optional** | Remarks |
| **Disease Clinically confined to body of uterus**  | **Pre-treatment Workup** Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, Electrocardiogram ImagingChest radiographUSG(TAS+TVS) abdomen+ pelvis PathologyTumour type, grade, depth of invasion, LVSISurgery*Approach:* Open/ MIS(Laparoscopic)Peritoneal Cytology Type I Histology; gr 1/2 without deep myommertial involvement: Extrafascial Type I Hysterectomy with bilateral salphingo-oophorectomy with lymph node assessment +/-BPLNDType I Histology; gr3 or deep myometrial involvement Extrafascial Type I Hysterectomy with bilateral salphingo-oophorectomy with BPLND +/- retroperitoneal lymphadenectomyType II Histology: Extrafascial Type I Hysterectomy with bilateral salphingo-oophorectomy with pelvic and para-aortic lymph node dissection with infracolicmentectomy.Retroperitoneal lymphadenectomy- Type II histology,Positive pelvic node, enlarged RP nodes, deep myometrial involvement AdjuvantStage IAGrade I/II with no LVSI: Observation Grade III with no LVSI: Vaginal BrachytherapyGrade I-III with LVSI: External beam Radiotherapy to Pelvis [Status of LVSI not known in view of poor processing/ lack of expertise: To consider as LVSI positive status][Type II Histology: Considered as Grade III]Stage IBGrade I/II with no LVSI: Vaginal BrachytherapyGrade I-III with LVSI: External beam Radiotherapy to Pelvis[Status of LVSI not known in view of poor processing/ lack of expertise: To consider as LVSI positive status][Type II Histology: Considered as Grade III]External Beam radiation therapy using IMRT should be considered when available else 3DCRT may be used.Referral to another centre may also be discussed for IMRT if feasible. | **Pre-treatment Workup** Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, Electrocardiogram ImagingChest radiographUSG(TAS+TVS) abdomen+ pelvisorCT scan (abdomen +Pelvis)orMRI (abdomen +Pelvis)PathologyTumour type, grade, depth of invasion, LVSIIHC for P53, MMR ER, PR on tissue Blocks, POLE if availableSurgery*Approach:* Open/ MIS (Laparoscopic)Peritoneal Cytology Type I Histology; gr 1/2 without deep myommertialinvolvement:Extrafascial Type I Hysterectomy with bilateral salphingo-oophorectomy with lymph node assessment +/-BPLNDType I Histology; gr3 or deep myommertial involvement Extrafascial Type I Hysterectomy with bilateral salphingo-oophorectomy with BPLND +/- retroperitoneal lymphadenectomyType II Histology: Extrafascial Type I Hysterectomy with bilateral salphingo-oophorectomy with pelvic and para-aortic lymph node dissection with infracolicmentectomy.Retroperitoneal lymphadenectomy- Type II histology,Positive pelvic node, enlarged RP nodesAdjuvantStage IAGrade I/II with no LVSI: Observation Grade III with no LVSI: Vaginal BrachytherapyGrade I-III with LVSI: External beam Radiotherapy to Pelvis [Status of LVSI not known in view of poor processing/ lack of expertise: To consider as LVSI positive status][Type II Histology: Considered as Grade III]Stage IBGrade I/II with no LVSI: Vaginal BrachytherapyGrade I-III with LVSI: External beam Radiotherapy to Pelvis[Status of LVSI not known in view of poor processing/ lack of expertise: To consider as LVSI positive status][Type II Histology: Considered as Grade III]For external beam radiation therapy, Image guided IMRT should be used. Image Based brachytherapy planning for vaginal Bt should be done.  | Sentinel lymph node biopsyFrozen section examination of uterus for depth of invasion, tumor size and grade and cervical involvement Robotic Surgery | Vaginal Hysterectomy: In patients not fit for abdominal hysterectomy Medically inoperable: Radical Radiotherapy to Pelvis (External beam Radiotherapy + Intra-cavitary Brachytherapy)Ovarian preservation may be considered in selected young age, low grade early stage cases after proper counsellingFertility Preservation: In young potentially fertile woman with:1. Disease confined to endometrium or with minimum myometrial invasion
2. Grade I, Well Differentiated Endometroid Histology
3. ER/PR Positive Status/P53 Wild type

MRI is a must in the above.Counselling regarding associated risks to be explained. Treatment is by high dose progesterone therapy with periodic r evaluation for response |
| **Stage II**Tumor invades cervical stroma,  | Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, Electrocardiogram ImagingChest radiographUSG(TAS+TVS) abdomen+ pelvisCECT Abdomen and PelvisApproach: Open (preferred if gross cervical involvement)Peritoneal Cytology Type I Histology:Type I or type II Radical l Hysterectomy with bilateral salphingo-oophorectomy with BPLND +/- retroperitoneal lymphadenectomyType II Histology: Type I or type II Radical l Hysterectomy with bilateral salphingo-oophorectomy with pelvic and para-aortic lymph node dissection with infracolicmentectomy.External beam Radiotherapy to Pelvis+/- Vaginal BrachytherapyExternal Beam radiation therapy using IMRT should be considered when available else 3DCRT may be used.Referral to another centre may also be discussed for IMRT if feasible. | Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, Electrocardiogram ImagingChest radiographMRI (abdomen +Pelvis)orCT scan (abdomen +Pelvis)Approach: Open (preferred if gross cervical involvement)/ MIS (Laparoscopic Peritoneal Cytology Type I Histology:Type I or type II Radical l Hysterectomy with bilateral salphingo-oophorectomy with BPLND +/- retroperitoneal lymphadenectomyType II Histology: Type I or type II Radical l Hysterectomy with bilateral salphingo-oophorectomy with pelvic and para-aortic lymph node dissection with infracolicmentectomy.External beam Radiotherapy to Pelvis+/- Vaginal BrachytherapyImage Guided IMRT for external RT and Image guided brachytherapy should be used.  | Robotic Approach | Medically / Surgically inoperable:Radical Radiotherapy to Pelvis (External beam Radiotherapy + Image Based Intracavitary Brachytherapy) |
| **Stage III****Local and/or regional spread of the tumor**IIIA: Tumor invades the serosa of the corpus uteri and/or adnexaeIIIB: Vaginal and/or Parametrial involvement IIIC1: Positive pelvic nodesIIIC2:Positive para-aortic lymph nodes with or without positive pelvic lymph nodes | Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, CA125Electrocardiogram ImagingChest radiograph SOS CT thoraxCT scan (abdomen +Pelvis)Type-I Hysterectomy with bilateral salphingo-oophorectomy with pelvic and para-aortic lymph node dissection +/-Omentectomy. Maximal Cytoreductive Surgery may be considered in the presence of bulky disease.Chemotherapy (Paclitaxel 175mg/m2 and Carboplatin AUC 5/6): 4- 6 Cycles +/- Radiation therapy +/- concurrent chemotherapy()Cisplatin 50mg/m2 q 3 weekly (Sequencing can be as per Institutional Practice)To supplement with vaginal brachytherapy depending on the following factors:1. Vaginal cuff/ Parametrial positive margins
2. Vaginal cuff/ parametrial margins are not reported in view of poor processing/ suboptimal surgery

Chemotherapy Regimen: Paclitaxel 175mg/m2 + Carboplatin AUC 5-6:: 3 weekly regimen External Beam radiation therapy using IMRT should be considered when available else 3DCRT may be used.Referral to another centre may also be discussed for IMRT if feasible. | Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, CA125Electrocardiogram ImagingChest radiograph SOS CT thoraxMRI (abdomen +Pelvis)orCT scan (abdomen +Pelvis)Type-I Hysterectomy with bilateral salphingo-oophorectomy with pelvic and para-aortic lymph node dissection +/-Omentectomy. Maximal Cytoreductive Surgery may be considered in the presence of bulky disease.Chemotherapy (Paclitaxel 175mg/m2 and Carboplatin AUC 5/6): 4- 6 Cycles +/- Radiation therapy +/- concurrent chemotherapy()Cisplatin 50mg/m2 q 3 weekly (Sequencing can be as per Institutional Practice)To supplement with vaginal brachytherapy depending on the following factors:1. Vaginal cuff/ Parametrial positive margins
2. Vaginal cuff/ parametrial margins are not reported in view of poor processing/ suboptimal surgery

Chemotherapy Regimen: Paclitaxel 175mg/m2 + Carboplatin AUC 5-6:: 3 weekly regimen For external beam radiation therapy, Image guided IMRT should be used.  | Whole body PET-CTif indicated | *Inoperable:* Systemic Chemotherapy 4-6 Cycles followed by re-assessment for debulking surgeryChemotherapy Regimen: Paclitaxel 175mg/m2 + Carboplatin AUC 5-6:: 3 weekly regimenNot fit for Chemotherapy Radical Radiotherapy to Pelvis +/- Para-Aortic Region (External beam Radiotherapy + Intracavitary Brachytherapy)To use image based brachytherapy approach for improved control rates\*To consider tumour directed RT after Chemotherapy in patients not fit for Surgery.Hormone therapy may be considered for patients not fit for Systemic chemotherapy. In hormone receptor positive cases |
| **Stage IVA**Tumor invasion of bladder and/or bowel mucosa | Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, CA125Electrocardiogram ImagingChest radiograph SOS CT thoraxCT scan (abdomen +Pelvis)orMRI (abdomen +Pelvis) Maximal Cytoreductive Surgery may be considered in the presence of bulky disease Palliative ChemotherapyPelvic RT+/- BrachytherapyHormonal therapy in hormone receptor positive cases  | Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, CA125Electrocardiogram ImagingChest radiograph SOS CT thoraxCT scan (abdomen +Pelvis)orMRI (abdomen +Pelvis) Maximal Cytoreductive Surgery may be considered in the presence of bulky disease Palliative ChemotherapyPelvic RT+/- BrachytherapyHormonal therapy in hormone receptor positive cases Image Guided IMRT should be used for EBRT deliveryIn medically inoperable patients image guided brachytherapy should be considered. | PET CT/PET MRI/bone scan if indicated  | *Inoperable:* Systemic Chemotherapy:4-6 cycles. To consider Palliative Surgery after Chemotherapy in responders |
| **Stage IVB**Distant metastases, including intra-abdominal metastases and/or inguinal lymphnodes | Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, CA125Electrocardiogram ImagingCT scan (Thorax +abdomen +Pelvis)To consider upfront surgery in highly selected patients Systemic Chemotherapy: 6 Cycles Paclitaxel and CarboplatinSecond Line -Weekly Paclitaxel or Doxorubicin To consider Palliative Surgery after Chemotherapy in respondersHormonal therapy in hormone receptor positive cases  | Endometrial biopsy +/-IHCComplete Hemogram, Renal and Liver Function tests, CA125Electrocardiogram ImagingChest radiograph SOS CT thoraxWhole body PET-CTOr MRI (abdomen +Pelvis)orCT scan (abdomen +Pelvis)To consider upfront surgery in highly selected patients Systemic Chemotherapy: 6 Cycles Paclitaxel and CarboplatinSecond Line -Weekly Paclitaxel or Doxorubicin To consider Palliative Surgery after Chemotherapy in respondersHormonal therapy in hormone receptor positive cases  | Whole body PET-CT/bone scan If IndicatedStereotactic RT may be considered for oligometastatic disease Immunotherapy in patients with MSI high(pembrolizumab 200 mg q 3 weekly | Palliative RT for symptom relief |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Imaging** | **(a)** | **(b)** | **(c)** | **Remarks** |
| Early | Transvaginal Ultrasound with Endometrial BiopsyGrade I: No further investigationChest X Ray | Transvaginal Ultrasound with Endometrial BiopsyGrade I: No further investigationChest X RayMRI Pelvis with abdominal screeningOr CECT abdomen and pelvis |  |  |
| Advanced | CECT Thorax+Abdomen + pelvis  | CECT Thorax+Abdomen+ pelvisMRI Pelvis + abdomen | PET CT | To assess for operability w.r.t primary tumour and burden of lymph nodes |

**VULVAR CANCER**

**Diagnosis**

• Clinical presentation (lesion on the vulva, history of chronic prurites /soreness of vulva)

• Clinical examination should include general physical examination, lymphnode palpation of groin and supraclavicular nodes, vulvar vaginal and cervical inspection, palpation and internal examination of uterus and adnexa

**Investigations**

Biopsy of suspected lesion for diagnosis of cancer/precancer/benign pathology should be based on histopathology (not cytology)

Staging CT scan and investigations for general fitness to treat should be done following confirmation of cancer/precancer

**Imaging:**

For primary tumor:

- Early lesion : Thorough Clinical Examination (EUA if necessary)(a)(b)

- Advanced lesion: MRI / CT pelvis may be required to rule out invasion of neighbouring structures including urethra / anorectum to assist in final treatment decision(a)(b)

For Nodal Staging :

- Early lesion : US inguinal region / CT pelvis / SLND(a)(b)

- Advanced lesion: MRI / CT(a)(b)

PET CT is required in melanomas(a)(b)

**Treatment**

**Early stage vulvar cancer Stage I with normal groins**

All other T1/Early T2 lesions

T1-2 lesion with <\_ to 1mm invasion\*

* Well lateralized T1 lesions more than 2cms from midlineIpsilateral GND/ sentinel node to be considered (a)(b)
* If ipsilateral nodes negative, then contralateral GND should be omitted
* If unfit for Sx, Radical Radiation therapy including brachytherapy may be an effective alternative
* WideRadicalexcision with groin node dissection or
* Sentinel node dissection if facilities available (with radiotracer)
* Wide local excision
* Omit groin node dissection if no enlarged groin nodes (GND) followed by observation
* If unfit for Surgery, Radical Radiation therapy including brachytherapy may be effective alternative

* Adjacent areas of lichen sclerosis/ hyperkeratosis/High grade VIN should preferably be excised without compromising on functionality of vulva
* Further adjuvant treatment is based on final surgical pathology report of primary lesion and groin nodes (see table)
* All patients are followed up for a minimum of 10 years and sometimes lifelong depending on MDT consensus

**Locally advanced stage vulvar cancer**

* Large T2-3 lesion involving or close to anus or urethra which requires diversion urinary/fecal stoma
* With or without enlarged groin nodes
* Large T2-3 lesion not involving the anus or urethra
* Presence of enlarged groin nodes on palpation/CT scan
* Large T2-3 lesion not involving the anus or urethra
* Absence of enlarged groin nodes on palpation/ CT scan

* Pre-op (Neoadjuvant) chemoradiation followed by local excision of vulvar tumour
* or
* Radical Chemoradiation +/- Brachytherapy boost
* Exenterative surgery along with associated morbidity and Qol issues should be discussed as an alternative treatment strategy
* Radical Wide local excision/ Radical Vulvectomy depending on the local extent of lesion and fine needle aspiration of groin node or GND / debulking of groin node if feasible
* Radical Chemoradiation +/- Brachytherapy boost
* Wide local excision/ Radical Vulvectomy depending on the local extent of lesion and bilateral groin node dissection (GND)

or

* Radical Chemoradiation +/- Brachytherapy boost

* Reconstructive surgery of the vulva/groins should be considered when there is a large defect following surgery or non healing surgical wound which necessitates prolonged stay in the hospital
* Further adjuvant treatment is based on final surgical pathology report of primary lesion and groin nodes (table)
* All patients are followed up for a minimum of 10 years and sometimes lifelong depending on the MDT consensus

**Metastatic vulvar cancer**

Palliative treatment

* Chemotherapy
* Radiotherapy for local control of symptoms
* Diversion palliative stoma for fecal fistula
* Best supportive care

Palliative care closer to home or hospice should be encouraged

**Adjuvant treatment of vulva and groins following surgical excision**

* Margins close or positive for preinvasive disease of vulva (VIN 2-3) in an adequately excised early vulvar cancer
* Surgical pathology reporting close margin from cancer on vulvar specimen (Tumour free margin of 1cm is considered adequate. No consensus for < 4mm margin and < 8mm margin).
* Local vulvar recurrences are common (30-50%) if the margin is <4 mm.

* Close observation or excision without compromising on functionality of vulva
* Medical management of VIN2/3 is an alternative option
* Re-excision of margins if feasible
* In areas very close to anus/urethra, close observation if margin <8mm
* If margins <4mm close observation versus local radiotherapy should be discussed as vulvar recurrences are salvageable at presentation

Groin Node positive

* If sentinel node positive, complete groin dissection is warranted (a)(b)
* Adjuvant RT is given if more than one node is positive.
* If one node is positive and micrometastasis, close observation of groins provided the yield of nodal dissection is good
* > 1 node positive with / without extracapsular spread adjuvant radiation +/- concomitant cisplatin chemotherapy to the affected groin and ipsilateral external iliac / pelvic nodes (depending on the echelon positivity)

*Adjuvant setting:*

*EBRT to Groin/ Primary tumour bed: 50 Gy in 25 Fr*

*Definitive setting:*

*EBRT (Phase I): 45-50 Gy followed by BT (Phase II) of / EBRT boost (Phase II) of 16-20 Gy to primary and EBRT nodal boost to macroscopic LN to additional dose of 10 Gy.*

*Radical or Boost Brachytherapy may be considered in patients suitable for the same. Boost brachy can be delivered in 3-6 fractions and radical in 8-10 fractions.*

**Summary of Imaging and Management Recommendations for Vulvar Cancer**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **(a)Essential** | **(b)Optimal** | **(c)Optional** | **Remarks** |
| **Imaging Vulva Cancer** | **For primary tumor:** * Early lesion: Thorough Clincal Examination (EUA if necessary)
* Advanced lesion: CT pelvis may be required to rule out invasion of neighbouring structures including urethra / anorectum to assist in final treatment decision

**For Nodal Staging :** * Early lesion: US inguinal region / CT pelvis
* Advanced lesion: MRI / CT
 | **For primary tumor:** * Early lesion: Thorough Clincal Examination (EUA if necessary)
* Advanced lesion: MRI / CT pelvis may be required to rule out invasion of neighbouring structures including urethra / anorectum to assist in final treatment decision

**For Nodal Staging :** * Early lesion: US inguinal region / CT pelvis / SLND
* Advanced lesion: MRI / CT
* PET CT for Melanoma
 | PET CT if indicated for squamous and adenocarcinoma  | **-----** |
| T1-2 lesion with <\_ to 1mm invasion\* | * Radical Wide local excision
* Omit groin node dissection if no enlarged groin nodes (GND) followed by observation
* If unfit for Surgery, Radical Radiation therapy including brachytherapy may be effective alternative
 | * Radical Wide local excision
* Omit groin node dissection if no enlarged groin nodes (GND) followed by observation
* If unfit for Surgery, Radical Radiation therapy including brachytherapy may be effective alternative
 | **------** | **------** |
| All other T1/Early T2 lesions | * Wide local excision with groin node dissection or
* Well lateralized T1 lesions more than 2cms from midline ipsilateral groin node dissection
* If ipsilateral nodes negative, then contralateral GND should be omitted

**If Close Margin*** Re-excision of margins if feasible
* In areas very close to anus/urethra, close observation if margin <8mm
* If margins <4mm close observation versus local radiotherapy should be discussed as vulvar recurrences are salvageable at presentation

**Groin Node positive*** If sentinel node positive, complete groin dissection is warranted.
* Close observation of groin if 1 node positive in complete GND with micrometastases (<5mm)
* > 1 node positive with / without extracapsular spread adjuvant radiation +/- concomitant cisplatin chemotherapy to the affected groin and ipsilateral external iliac / pelvic nodes (depending on the echelon positivity)

**Unfit for Sx**Radical Radiation therapy including brachytherapy may be an effective alternative. 3DCRT or IMRT (if feasible) can be considered along with concurrent chemotherapy | * Wide local excision with groin node dissection or
* Well lateralized T1 lesions more than 2cms from midline ipsilateral groin node dissection
* If ipsilateral nodes negative, then contralateral GND should be omitted

**If Close Margin*** Re-excision of margins if feasible
* In areas very close to anus/urethra, close observation if margin <8mm
* If margins <4mm close observation versus local radiotherapy should be discussed as vulvar recurrences are salvageable at presentation

**Groin Node positive*** If sentinel node positive, complete groin dissection is warranted.
* Close observation of groin if 1 node positive in complete GND with micrometastases (<5mm)
* > 1 node positive with / without extracapsular spread adjuvant radiation +/- concomitant cisplatin chemotherapy to the affected groin and ipsilateral external iliac / pelvic nodes (depending on the echelon positivity)

**Unfit for Sx**Radical Radiation therapy including brachytherapy is an effective alternative. IMRT (where available OR 3DCRT) should be considered along with concurrent chemotherapy | * Sentinel node dissection if facilities available (with radiotracer)
 | * Adjacent areas of lichen sclerosis/ hyperkeratosis/High grade VIN should preferably be excised without compromising on functionality of vulva
* Further adjuvant treatment is based on final surgical pathology report of primary lesion and groin nodes
* All patients are followed up for a minimum of 10 years and sometimes lifelong depending on MDT consensus
 |
| -Large T2-3 lesion not involving the anus or urethra -Absence of enlarged groin nodes on palpation/ CT scan | * Radical Wide local excision/ Simple Vulvectomy / Radical Vulvectomy depending on the local extent of lesion and bilateral groin node dissection (GND) or
* Radical Chemo-radiation +/- Brachytherapy boost
* 3DCRT or IMRT can be considered
* Neodjuvant Chemotherapy (Platinum ± 5FU OR Paclitaxel) in select cases where upfront chemoradiation not feasible

**If Close Margin on surgery*** Re-excision of margins if feasible
* In areas very close to anus/urethra, close observation if margin <8mm
* Adj local radiotherapy to be considered if tumour size> 4 cm or margin positive/Close. 3DCRT or IMRT based on availability
* **Groin Node positive on pathology**
* If sentinel node positive, complete groin dissection is warranted.
* Close observation of groin if 1 node positive in complete GND with micrometastases (<5mm)
* If 1 node positive with extracapsular spread adjuvant radiation +/- concomitant cisplatin chemotherapy to the affected groin and ipsilateral external iliac / pelvic nodes (depending on the echelon positivity)
* 3DCRT or IMRT based on availability can be considered
 | * Radical Wide local excision/ Simple Vulvectomy / Radical Vulvectomy depending on the local extent of lesion and bilateral groin node dissection (GND) or
* Radical Chemo-radiation +/- Brachytherapy boost
* IMRT for external RT planning
* (Where IMRT not available 3DCRT may be used)
* Neodjuvant Chemotherapy in select cases where upfront chemoradiation not feasible

**If Close Margin on surgery*** Re-excision of margins if feasible
* In areas very close to anus/urethra, close observation if margin <8mm
* Adj local radiotherapy to be considered if tumour size> 4 cm or margin positive/Close.

Image guided IMRT should be considered* (Where IMRT not available 3DCRT may be used)
* **Groin Node positive on pathology**
* If sentinel node positive, complete groin dissection is warranted.
* Close observation of groin if 1 node positive in complete GND with micrometastases (<5mm)
* If 1 node positive with extracapsular spread adjuvant radiation +/- concomitant cisplatin chemotherapy to the affected groin and ipsilateral external iliac / pelvic nodes (depending on the echelon positivity)
* Image guided IMRT should be considered.
* (Where IMRT not available 3DCRT may be used)
 | -- | * Reconstructive surgery of the vulva/groins should be considered when there is a large defect following surgery or non healing surgical wound which necessitates prolonged stay in the hospital
* Further adjuvant treatment is based on final surgical pathology report of primary lesion and groin nodes
* All patients are followed up for a minimum of 10 years and sometimes lifelong depending on the MDT consensus
 |
| -Large T2-3 lesion not involving the anus or urethra-Presence of enlarged groin nodes on palpation/CT scan | * Radical Wide local excision/ Radical Vulvectomy depending on the local extent of lesion and fine needle aspiration of groin node or GND / debulking of groin node if feasible followed by adjuvant chemoradiation (with Cisplatin) to primary, inguinal and pelvic nodes. 3DCRT T can be considered

OR* Radical Chemoradiation (Cisplatin)+/- Brachytherapy boost
* 3DCRT or IMRT can be considered

ORNeodjuvant chemotherapy (Platinum ± 5FU OR Paclitaxel) when upfront chemoradiation not considered feasible | * Radical Wide local excision/ Radical Vulvectomy depending on the local extent of lesion and fine needle aspiration of groin node or GND / debulking of groin node if feasible followed by adjuvant chemoradiation (Cisplatin) to primary, inguinal and pelvic nodes. 3DCRT T can be considered

OR* Radical Chemoradiation +/- Brachytherapy boost
* Image guided IMRT should be considered
* (Where IMRT not available 3DCRT may be used)

ORNeodjuvant chemotherapy (Platinum ± 5FU OR Paclitaxel) when upfront chemoradiation not considered feasible  | **--** | * Reconstructive surgery of the vulva/groins should be considered when there is a large defect following surgery or non healing surgical wound which necessitates prolonged stay in the hospital
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| -Large T2-3 lesion involving or close to anus or urethra which requires diversion urinary/fecal stoma -With or without enlarged groin nodes | * Pre-op (Neoadjuvant) chemoradiation followed by local excision of vulvar tumour or
* Radical Chemoradiation +/- Brachytherapy boost
* Exenterative surgery along with associated morbidity and Qol issues should be discussed as an alternative treatment strategy
* Radical Chemoradiation +/- Brachytherapy boost
* 3DCRT or IMRT can be considered

ORNeoadjuvant chemotherapy (Platinum ± 5FU OR Paclitaxel) when upfront chemoradiation not considered feasible  | * Pre-op (Neoadjuvant) chemoradiation followed by local excision of vulvar tumour or
* Radical Chemoradiation +/- Brachytherapy boost
* Exenterative surgery along with associated morbidity and Qol issues should be discussed as an alternative treatment strategy
* Image guided IMRT should be considered.
* (Where IMRT not available 3DCRT may be used)
* Neodjuvant chemotherapy (Platinum ± 5FU OR Paclitaxel ) when upfront chemoradiation not considered feasible
 | **--** | * Reconstructive surgery of the vulva/groins should be considered when there is a large defect following surgery or non healing surgical wound which necessitates prolonged stay in the hospital
* Further adjuvant treatment is based on final surgical pathology report of primary lesion and groin nodes
* All patients are followed up for a minimum of 10 years and sometimes lifelong depending on the MDT consensus
 |
| Palliative treatment | * Palliative Chemotherapy (Platinum Cisplatin or Carboplatin ± Paclitaxel )
* Radiotherapy for local control of symptoms
* Diversion palliative stoma for fecal fistula
* Best supportive care
 | * Palliative Chemotherapy

(Platinum Cisplatin or Carboplatin ± Paclitaxel )* Radiotherapy for local control of symptoms
* Diversion palliative stoma for fecal fistula
* Best supportive care
 | **--** | Palliative care closer to home or hospice should be encouraged |