Cervical Cancer
Cervical Carcinoma

Average Age

45-55 Years
Cervical Carcinoma

Symptoms

凰 NONE
凰 BLOOD TINGED DISCHARGE
凰 POST-COITAL BLEEDING
凰 ABNORMAL VAGINAL BLEEDING
凰 PAIN +/- LEG EDEMA
Cervical Carcinoma

Gross Appearance

- Exophytic
- Infiltrating
- Ulcerative
Cervical Carcinoma
Risk Factors

- Sexual Activity
- Early Age at First Intercourse
- Multiple Sexual Partners
- Viral Infection (HPV)
- Smoking
- Altered Immune Status
Cervical Carcinoma

Histologic Types

- Squamous Carcinoma
  - Large Cell Keratinizing
  - Large Cell Keratinizing
  - Small Cell Carcinoma

- Adenocarcinoma

- Adenosquamous Carcinoma (Glassy Cell)

- Adenoid Basal Carcinoma

- Adenoid Cystic Carcinoma
Cervical Carcinoma
Spread Pattern

- DIRECT
- LYMPHATIC
  - PARACERVICAL
  - OBTURATOR
  - HYPOGASTRIC
  - EXTERNAL ILIAC
  - AORTA
Cervical Carcinoma

- Clinical staging
- Histologic diagnosis
  - Depth of invasion
- Physical exam to establish stage
- Additional tests are based on size of lesion and whether patient is surgical candidate
Cervical Carcinoma

Staging
Cervical Carcinoma

Staging

Stage Ia1

Minimal stromal invasion.

Stage Ia2

Stromal invasion < 5 mm in depth from basement membrane & 7 mm in width
Cervical Carcinoma

Staging

Stage Ib1

Preclinical lesion > Ia2, or Clinical lesion < or = 4 cm

Stage Ib2

Clinical lesion > 4 cm.
Cervical Carcinoma

Staging

Stage II A1  Lesion ≤ 4.0 cm
No parametrial extension of tumor.
Involves upper 2/3 of vagina.

Stage II A2  Lesion > 4.0 cm
No parametrial extension of tumor.
Involves upper 2/3 of vagina.

Stage II b
Parametrial extension of tumor.
Cervical Carcinoma
Staging

Stage IIIa
Tumor extends to lower 1/3 of vagina, not fixed to pelvic sidewall.

Stage IIIB
Tumor extends to pelvic sidewall or causes hydrenephrosis
Cervical Carcinoma

Staging

Stage IVa
Tumor invades mucosa of bladder or rectum

Stage IVb
Tumor spread beyond the true pelvis
Cervical Carcinoma

Microinvasion
Cervical Carcinoma

Microinvasion

- Less than or equal to 3 mm stromal invasion
- Absence of vascular space involvement
Carcinoma of the Cervix
FIGO 2009

Stage I
The cancer is strictly confined to the cervix
(extension to the corpus should be disregarded)

IA
Invasive carcinoma which can be diagnosed only by microscopy with deepest invasion ≤ 5 mm and largest extension ≤ 7 mm

IA1
Measured stromal invasion of ≤ 3.0 mm in depth and largest extension of ≤ 7.0 mm

IA2
Measured stromal invasion of > 3.0 mm and not > 5.0 mm with an extension of not > 7.0 mm

IB
Clinically visible lesions limited to the cervix uteri or preclinical cancers greater than

IA

IB1
Clinically visible lesion ≤ 4.0 cm in greatest dimension

IB2
Clinically visible lesions > 4.0 cm in greatest dimension

Stage II
Cervical cancer invades beyond the uterus, but not to the pelvic sidewall or to the lower third of the vagina

IIA
Without parametrial invasion

IIA1
Clinically visible lesion ≤ 4.0 cm in greatest dimension

IIA2
Clinically visible lesion > 4.0 cm in greatest dimension

IIB
With obvious parametrial invasion

Stage III
The tumor extends to the pelvic sidewall and/or involves lower third of the vagina and/or causes hydronephrosis

IIIA
Tumor involves the lower third of the vagina, with no extension to the pelvic sidewall

IIIB
Extension to the pelvic sidewall and/or hydronephrosis or non-functioning kidney

Stage IV
The carcinoma has extended beyond the true pelvis or has involved (biopsy proven) the mucosa of the bladder or rectum. Bullous edema, as such, does not permit a case to be allotted to Stage IV.

IVA
Spread of the growth to adjacent organs

IVB
Spread to distant organs
All macroscopically visible lesions are allotted to Stage IB

Minimal or microscopic invasion IA1 to include squamous and glandular lesions

Vascular/lymphatic invasion should not change the stage allotment

IIA subdivided into Lesion $\leq 4.0$ cm or $> 4.0$ cm
Cervical Carcinoma
Prognostic Factors

- STAGE
- POSITIVE LYMPH NODES
- HISTOLOGIC TYPE
- LYMPHATIC OR VASCULAR SPACE INVOLVEMENT
- SIZE OF LESION
Cervical Carcinoma
Pre-treatment evaluation

- Small lesion & good surgical candidate
  - CXR
  - Comprehensive metabolic panel
  - CBC
  - HIV test
Cervical Carcinoma
Pre-treatment evaluation

- Larger lesion &/or, not a good surgical candidate.
  - CXR
  - CBC, Comprehensive metabolic panel
  - HIV test
  - CT scan
  - Cystoscopy/sigmoidoscopy for symptomatic patient or large lesion
Cervical Carcinoma
Pre-treatment evaluation

- CT/PET scan may be used to guide the size of the radiation port, but not change the stage.

- CT/PET scan may be used to assess the presence or absence of ureteral obstruction.

- If surgical exploration is planned, CT/PET scan will add little.
Cervical Carcinoma
Treatment Options

- Radical hysterectomy, PLND
  - Open, Laparoscopic, Robotic
- External beam & intracavitary radiation
- Chemo-radiation combination
- Post-radiation extrafascial hysterectomy
- Pre-treatment lymphadenectomy
- Fertility Preservation
CERVICAL CARCINOMA THERAPY

SURGICAL
RADICAL HYSTERECTOMY AND
PELVIC LYMPHADENECTOMY
Radical Hysterectomy
Types

TYPE I
- Extrafascial hysterectomy

TYPE II
- Removes medial half of cardinal and uterosacral ligaments and upper 1/3 of vagina
Radical Hysterectomy

Types

TYPE III

- REMOVES ENTIRE CARDINAL AND UTEROSACRACL LIGAMENT, AND UPPER 1/3 OF VAGINA
Radical Hysterectomy

Risks & Benefits

- ALLOWS PRESERVATION OF OVARIES
- ASSESSMENT OF EXTENT OF DISEASE
- PATIENT SELECTION
  - YOUNG
  - HEALTHY
  - LOW RISK FOR NODAL DISEASE
- BLADDER OR RECTAL DYSFUNCTION
- FISTULA FORMATION
- LYMPHOCYST FORMATION
CERVICAL CARCINOMA THERAPY

RADIATION THERAPY

EXTERNAL BEAM AND INTRACAVITARY
Radiation Therapy
Risks & Benefits

- CAN BE USED FOR ALL STAGES
- NOT DEPENDENT ON AGE OR HEALTH
- TREATS NODES AT RISK
- OVARIENS ARE IN TREATMENT FIELD
- UNAFFECTED ORGANS ARE TREATED
- POSSIBLE FISTULA FORMATION
- EXCELLENT TUMOR RESPONSE
CERVICAL CARCINOMA THERAPY

BOTH TREATMENT MODALITIES HAVE RISKS!!
CERVICAL CARCINOMA THERAPY

COMBINED THERAPY

RADIATION

AND

CHEMOTHERAPY
CERVICAL CARCINOMA THERAPY

COMBINED THERAPY

RADIATION AND SURGERY

PRE-OPERATIVE/ POST-OPERATIVE
CERVICAL CARCINOMA
RECURRENT

PELVIC EXENTERATION
RADIATION THERAPY
CHEMOTHERAPY
CERVICAL CARCINOMA FOLLOW UP

- CLOSE OBSERVATION
- PELVIC EXAM AND PAP
- LYMPH NODE SURVEY
- CHEST X-RAY
- HORMONE REPLACEMENT
Case #1

41 yo G2P2, LMP 2 wks ago, tubal ligation

C.C. = Postcoital bleeding

Hx. = Last Pap 7 years ago.

Exam = Heart and lungs neg. Node survey neg.

Pelvic Exam =
Case # 1

- Cervical biopsy shows invasive squamous carcinoma with 4.5 mm of invasion.
- Parametria clear
- Cervix is 2.7 cm in diameter

Stage??
The End
CERVICAL CARCINOMA INCIDENTAL AFTER HYSTERECTOMY

CUT-THROUGH HYSTERECTOMY

GROUP I-V

POST-OPERATIVE RADIATION REQUIRED.

COMPLICATIONS & SURVIVAL MAY BE ALTERED.
Cervical Carcinoma
Microinvasion by SGO

- Less than or equal to 3 mm stromal invasion
- Absence of vascular space involvement
Cervical Carcinoma

Histologic Types

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CERVICAL CARCINOMA THERAPY

- SURGICAL
- RADIATION
- COMBINATION THERAPY