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The FIGO 2018 staging of cervical cancer Clinical implications

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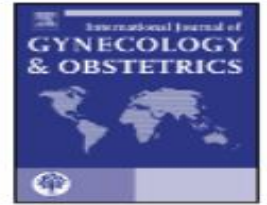
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SPECIAL COMMUNICATION

Revised FIGO staging for carcinoma of the cervix

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- Cervical cancer staging is the oldest staging in the literature, dating back to 1928
- In 1950, during the International Gynecological Congress and the 4th American Congress of Obstetrics and Gynecology, a new classification was named “The International Classification of the Stages of Carcinoma of the Uterine Cervix.”
- Since then the staging for cervical cancer has undergone 8 revisions, the most recent in 2009.

INTRODUCTION



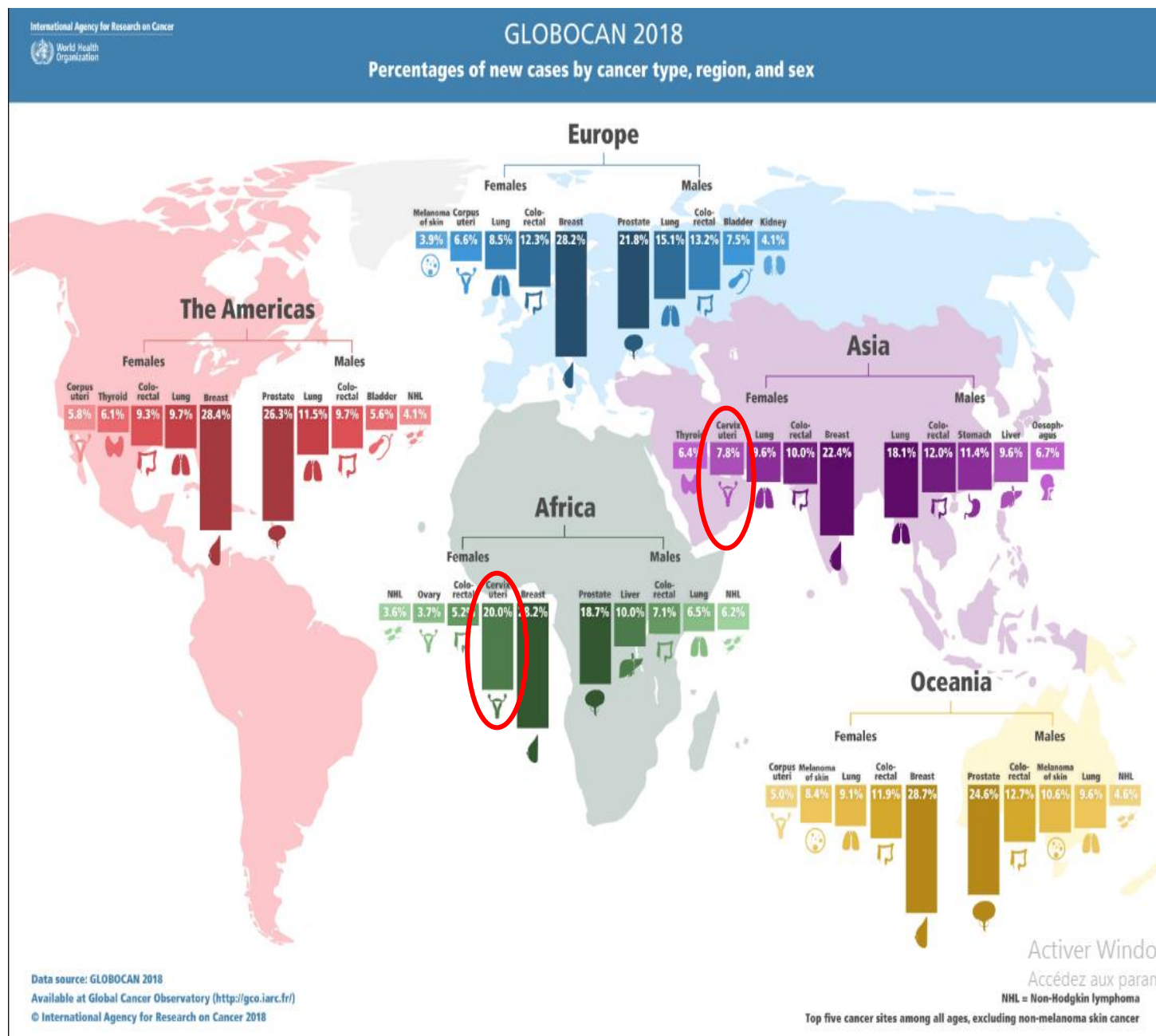
- Cervical cancer is the 4th most common cancer for women and the 8th cancer overall
- Low and middle-income countries face this burden more than high-income countries (85%)
- Developed nations have organized **screening programs and vaccination**



Highest % are noted in Africa (20%) and Asia (7.8%)

Over 500,000 new cases in 2018

- 55.2% in Asia
- 21% in Africa

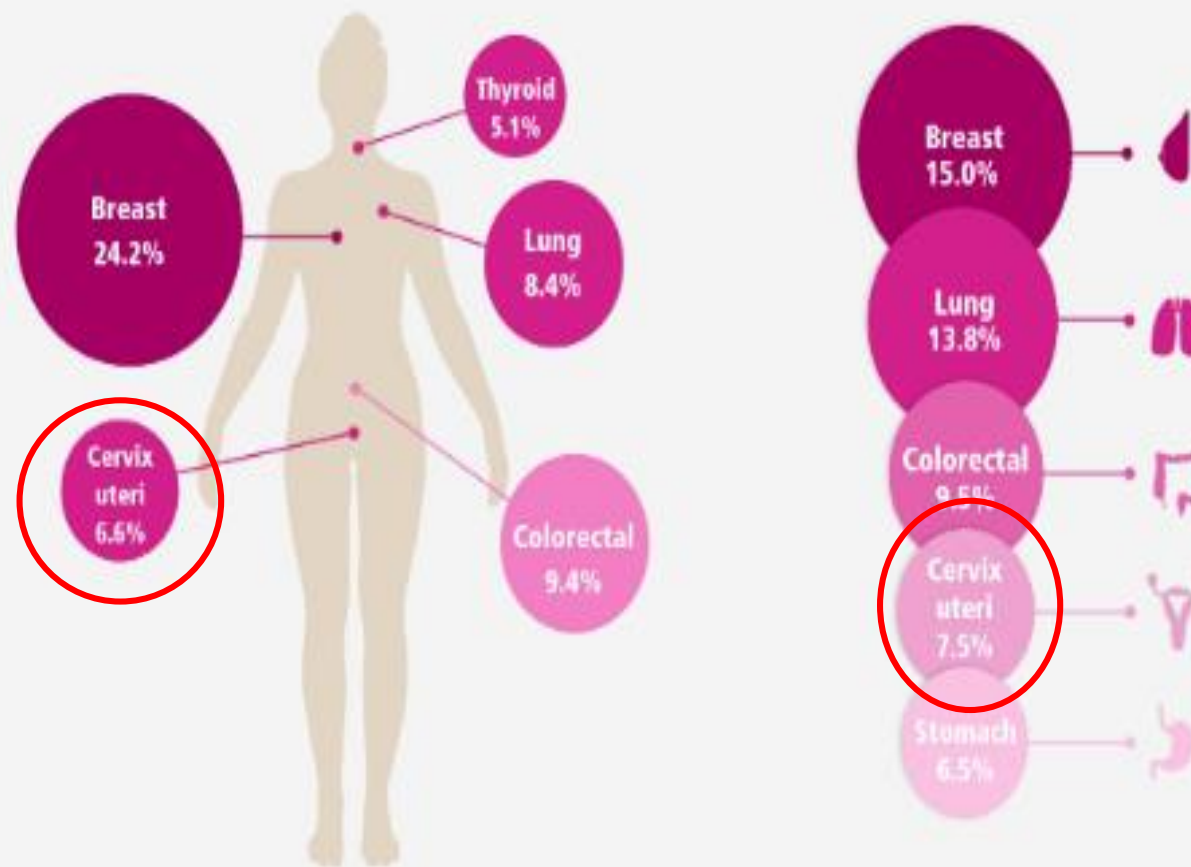




Global cancer incidence

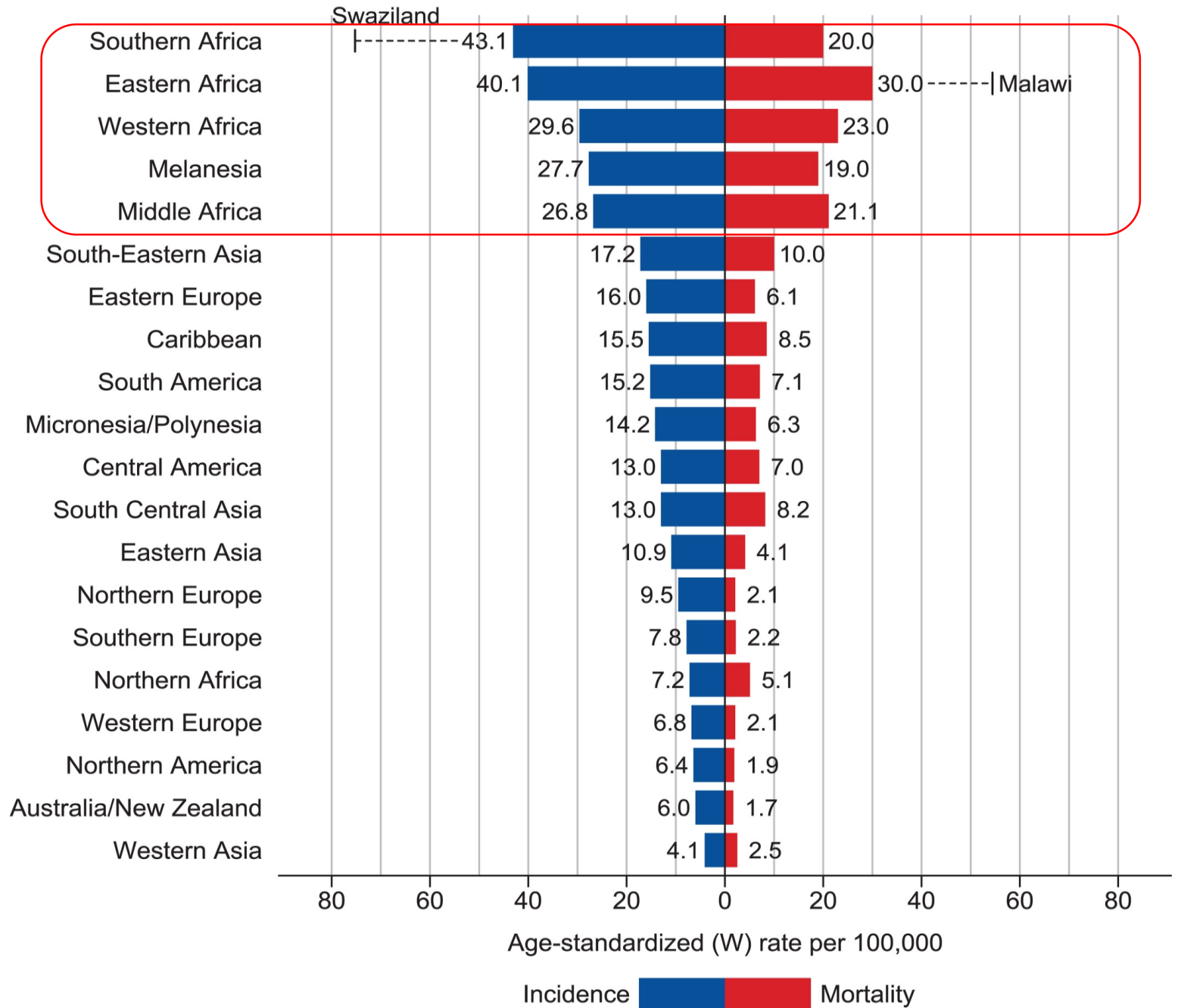
Global cancer mortality

Females



- 6.6% of incidence
- 7.5% of mortality

Cervix uteri



Highest incidence and mortality were reported in Southern, Eastern, Western and Middle Africa



FIGO

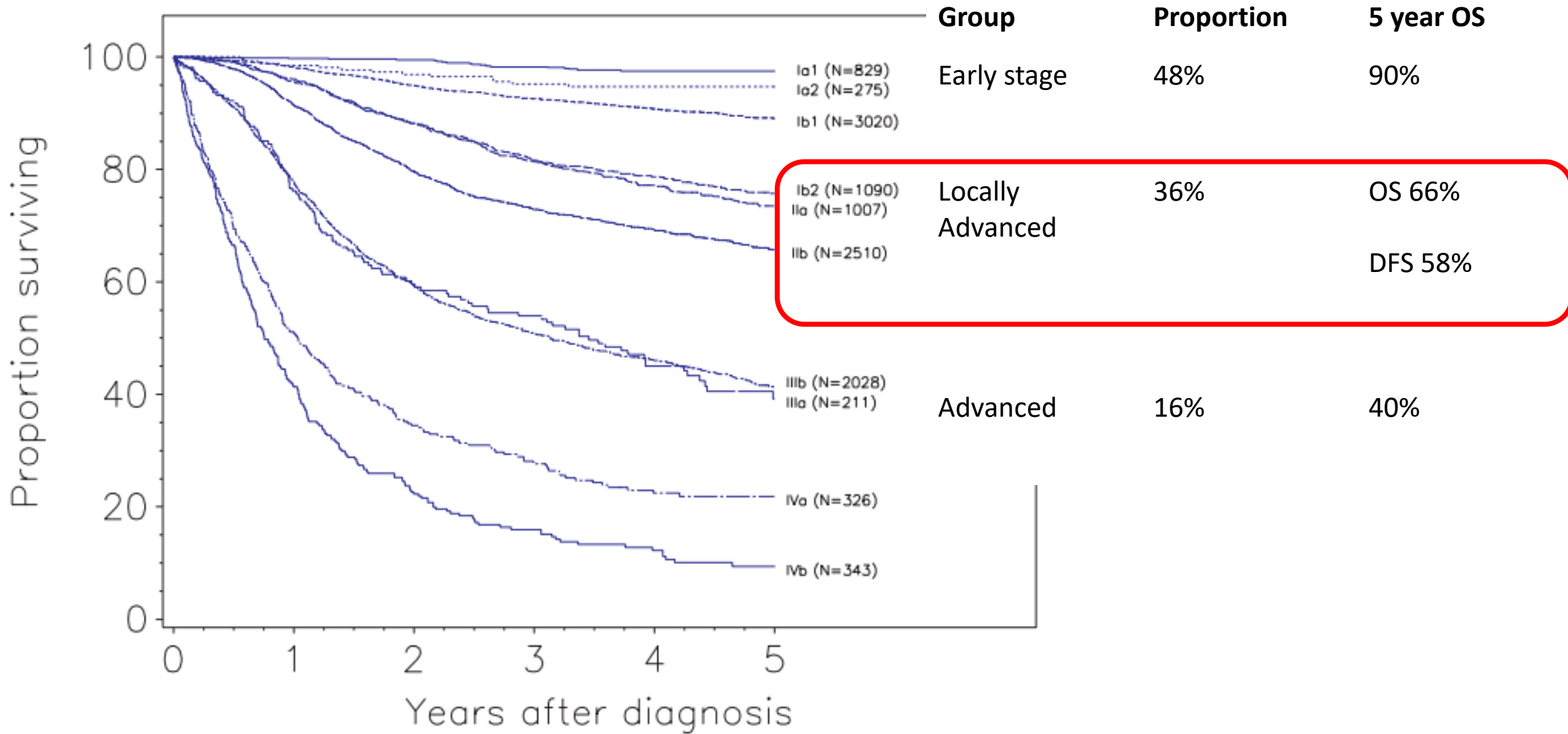
International Federation of
Gynecology and Obstetrics

THE GLOBAL VOICE FOR WOMEN'S HEALTH

According to these epidemiological data, the International Federation of Gynecology and Obstetrics FIGO committee used only clinical criteria for staging of cervical cancer because it was more practical in low-resources countries.

FIGO Staging system for cervical cancer 2009

IA	Invasive cancer identified only microscopically. Invasion is limited to measured stromal invasion with a maximum depth of 5mm and no wider than 7mm
IA1	Measured invasion of stroma ≤ 3 mm in depth and ≤ 7 mm width
IA2	Measured invasion of stroma > 3 mm and ≤ 5 mm in depth and ≤ 7 mm width
IB	Clinical lesions confined to the cervix, or preclinical lesions greater than stage IA
IB1	Tumor ≤ 4 cm
IB2	Tumor > 4 cm
IIA	Involvement of up to the upper 2/3 of the vagina
IIA1	Tumor ≤ 4 cm
IIA2	Tumor > 4 cm
IIB	Parametrial tumor involvement
III	The carcinoma has extended onto the pelvic sidewall and involves the lower third of the vagina and/or hydronephrosis and/or non-functioning kidney
IIIA	Involvement of the lower vagina but no extension onto pelvic sidewall
IIIB	Extension onto the pelvic sidewall, or hydronephrosis/non-functioning kidney
IV	The carcinoma has extended beyond the true pelvis or has clinically involved the mucosa of the bladder and/or rectum (proven by biopsy). Note: bullous edema is not considered stage IV.
IVA	Spread to bladder and/or rectum
IVB	Spread to distant organs



FIGO Staging system for cervical cancer 2018

Stage	Description
I	The carcinoma is strictly confined to the cervix (extension to the uterine corpus should be disregarded)
IA	Invasive carcinoma that can be diagnosed only by microscopy, with maximum depth of invasion <5 mm*
IA1	Measured stromal invasion <3 mm in depth
IA2	Measured stromal invasion ≥3 mm and <5 mm in depth
IB	Invasive carcinoma with measured deepest invasion ≥5 mm (greater than stage IA), lesion limited to the cervix uteri†
IB1	Invasive carcinoma ≥5 mm depth of stromal invasion, and <2 cm in greatest dimension
IB2	Invasive carcinoma ≥5 mm depth of stromal invasion, and ≥2 cm in greatest dimension
IIA	Invasive carcinoma that can be diagnosed only by microscopy, with maximum depth of invasion <5 mm*
IIA1	Measured stromal invasion <3 mm in depth
IIA2	Measured stromal invasion ≥3 mm and <5 mm in depth
IIIB	The carcinoma involves the lower third of the vagina, with no extension to the pelvic wall
IIIC	Extension to the pelvic wall and/or hydronephrosis or nonfunctioning kidney (unless known to be due to another cause)
IIIC1	Involvement of pelvic and/or para-aortic LNs, irrespective of tumor size and extent (with r and p notations)‡
IIIC2	Pelvic LN metastasis only
IIIC3	Para-aortic LN metastasis
IV	The carcinoma has extended beyond the true pelvis or has involved (biopsy proven) the mucosa of the bladder or rectum. (a bullous edema, as such, does not permit a case to be allotted to stage IV)
IVA	Spread to adjacent pelvic organs
IVB	Spread to distant organs

*when in doubt, the lower staging should be assigned

With the introduction of the 2018 FIGO staging system for cervical cancer, the number of sub-stages has increased

FIGO Staging system for cervical cancer 2018

Stage	Description
I	The carcinoma is strictly confined to the cervix (extension to the uterine corpus should be disregarded)
IA	Invasive carcinoma that can be diagnosed only by microscopy, with maximum depth of invasion <5 mm [†]
IA1	Measured stromal invasion <3 mm in depth
IA2	Measured stromal invasion ≥3 mm and <5 mm in depth
IB	Invasive carcinoma with measured deepest invasion ≥5 mm (greater than stage IA), lesion limited to the cervix uteri [†]
IB1	Invasive carcinoma ≥5 mm depth of stromal invasion, and <2 cm in greatest dimension
IB2	Invasive carcinoma ≥2 cm and <4 cm in greatest dimension
IB3	Invasive carcinoma ≥4 cm in greatest dimension
IIB	With parametrial involvement but not up to the pelvic wall
III	The carcinoma involves the lower third of the vagina and/or extends to the pelvic wall and/or causes hydronephrosis or nonfunctioning kidney and/or involves pelvic and/or para-aortic LNs [‡]
IIIA	The carcinoma involves the lower third of the vagina, with no extension to the pelvic wall
IIIB	Extension to the pelvic wall and/or hydronephrosis or nonfunctioning kidney (unless known to be due to another cause)
IIIC	Involvement of pelvic and/or para-aortic LNs, irrespective of tumor size and extent (with r and p notations) [‡]
IIIC1	Pelvic LN metastasis only
IIIC2	Para-aortic LN metastasis
IV	The carcinoma has extended beyond the true pelvis or has involved (biopsy proven) the mucosa of the bladder or rectum. (a bullous edema, as such, does not permit a case to be allotted to stage IV)
IVA	Spread to adjacent pelvic organs
IVB	Spread to distant organs

When in doubt, the lower staging should be assigned.

FIGO, International Federation of Gynecology and Obstetrics; LN, lymph node.

*Imaging and pathology can be used, where available, to supplement clinical findings with respect to tumor size and extent, in all stages; [†]The involvement of vascular/lymphatic spaces does not change the staging. The lateral extent of the lesion is no longer considered; [‡]Adding notation of r (imaging) and p (pathology) to indicate the findings that are used to allocate the case to stage IIIC. Example: If imaging indicates pelvic LN metastasis, the stage allocation would be stage IIIC1r, and if confirmed by pathologic findings, it would be stage IIIC1p. The type of imaging modality or pathology technique used should always be documented.

FIGO Staging system for cervical cancer 2018

Stage	Description
I	The carcinoma is strictly confined to the cervix (extension to the uterine corpus should be disregarded)
IA	Invasive carcinoma that can be diagnosed only by microscopy, with maximum depth of invasion <5 mm [†]
IA1	Measured stromal invasion <3 mm in depth
IA2	Measured stromal invasion ≥3 mm and <5 mm in depth
IB	Invasive carcinoma with measured deepest invasion ≥5 mm (greater than stage IA), lesion limited to the cervix uteri [†]
IB1	Invasive carcinoma ≥5 mm depth of stromal invasion, and <2 cm in greatest dimension
IB2	Invasive carcinoma ≥2 cm and <4 cm in greatest dimension
IB3	Invasive carcinoma ≥4 cm in greatest dimension
II	The carcinoma invades beyond the uterus, but has not extended onto the lower third of the vagina or to the pelvic wall
IIA	Involvement limited to the upper two-thirds of the vagina without parametrial involvement
IIA1	Invasive carcinoma <4 cm in greatest dimension
IIA2	Invasive carcinoma ≥4 cm in greatest dimension
IIB	With parametrial involvement but not up to the pelvic wall
III	The carcinoma involves the lower third of the vagina and/or extends to the pelvic wall and/or causes hydronephrosis or non-functioning kidneys and/or involves pelvic and/or para-aortic LNs [‡]
IIIC	Involvement of pelvic and/or para-aortic LNs, irrespective of tumor size and extent (with r and p notations) [‡]
IIIC1	Pelvic LN metastasis only
IIIC2	Para-aortic LN metastasis
IVA	Spread to adjacent pelvic organs
IVB	Spread to distant organs

When in doubt, the lower staging should be assigned.

FIGO, International Federation of Gynecology and Obstetrics; LN, lymph node.

*Imaging and pathology can be used, where available, to supplement clinical findings with respect to tumor size and extent, in all stages; [†]The involvement of vascular/lymphatic spaces does not change the staging. The lateral extent of the lesion is no longer considered; [‡]Adding notation of r (imaging) and p (pathology) to indicate the findings that are used to allocate the case to stage IIIC. Example: If imaging indicates pelvic LN metastasis, the stage allocation would be stage IIIC1r, and if confirmed by pathologic findings, it would be stage IIIC1p. The type of imaging modality or pathology technique used should always be documented.

Why change??

- Clinical limitations of the previous cervical cancer staging system : FIGO staging is largely clinical and imaging exams are unavailable in many low resources countries
- Recent developments in biological therapy, imaging technology and minimally invasive surgery have changed the management of cervical cancer
- Stage IB1 was an heterogeneous group with a difference in prognosis according to tumor size

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FIGO COMMITTEE REPORT

WILEY



Revised FIGO staging for carcinoma of the cervix uteri[☆]

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Stage I classification

Stage I:

The carcinoma is strictly confined to the cervix uteri (extension to the corpus should be disregarded)

- **IA** Invasive carcinoma that can be diagnosed only by microscopy, with maximum depth of invasion <5 mm^a
 - **IA1** Measured stromal invasion <3 mm in depth
 - **IA2** Measured stromal invasion ≥3 mm and <5 mm in depth
- **IB** Invasive carcinoma with measured deepest invasion ≥5 mm (greater than stage IA), lesion limited to the cervix uteri^b
 - **IB1** Invasive carcinoma ≥5 mm depth of stromal invasion and <2 cm in greatest dimension
 - **IB2** Invasive carcinoma ≥2 cm and <4 cm in greatest dimension
 - **IB3** Invasive carcinoma ≥4 cm in greatest dimension

The main changes in the revised FIGO staging system

• Stage I classification

- IA Invasive carcinoma that can be diagnosed only by microscopy, with maximum depth of invasion <5 mm^a
 - IA1 Measured stromal invasion <3 mm in depth
 - IA2 Measured stromal invasion ≥ 3 mm and <5 mm in depth
- For microinvasive disease, the horizontal dimension is no longer considered in the 2018 revision, as it is subject to many artefactual errors and it doesn't change the treatment.

Stage I classification

Stage I:

The carcinoma is strictly confined to the cervix uteri (extension to the corpus should be disregarded)

- **IA** Invasive carcinoma that can be diagnosed only by microscopy, with maximum depth of invasion <5 mm^a
 - **IA1** Measured stromal invasion <3 mm in depth
 - **IA2** Measured stromal invasion ≥ 3 mm and <5 mm in depth
- **IB** Invasive carcinoma with measured deepest invasion ≥ 5 mm (greater than stage IA), lesion limited to the cervix uteri^b
 - **IB1** Invasive carcinoma ≥ 5 mm depth of stromal invasion and <2 cm in greatest dimension
 - **IB2** Invasive carcinoma ≥ 2 cm and <4 cm in greatest dimension
 - **IB3** Invasive carcinoma ≥ 4 cm in greatest dimension

The main changes in the revised FIGO staging system

- IB Invasive carcinoma with measured deepest invasion ≥ 5 mm (greater than stage IA), lesion limited to the cervix uteri^b
 - IB1 Invasive carcinoma ≥ 5 mm depth of stromal invasion and < 2 cm in greatest dimension
 - IB2 Invasive carcinoma ≥ 2 cm and < 4 cm in greatest dimension
 - IB3 Invasive carcinoma ≥ 4 cm in greatest dimension

 THE FIGO COMMITTEE CONSIDERED THE 2cm CUTOFF ON RISK STRATIFICATION: Difference in characteristics and outcomes



Validation of the 2018 FIGO cervical cancer staging system



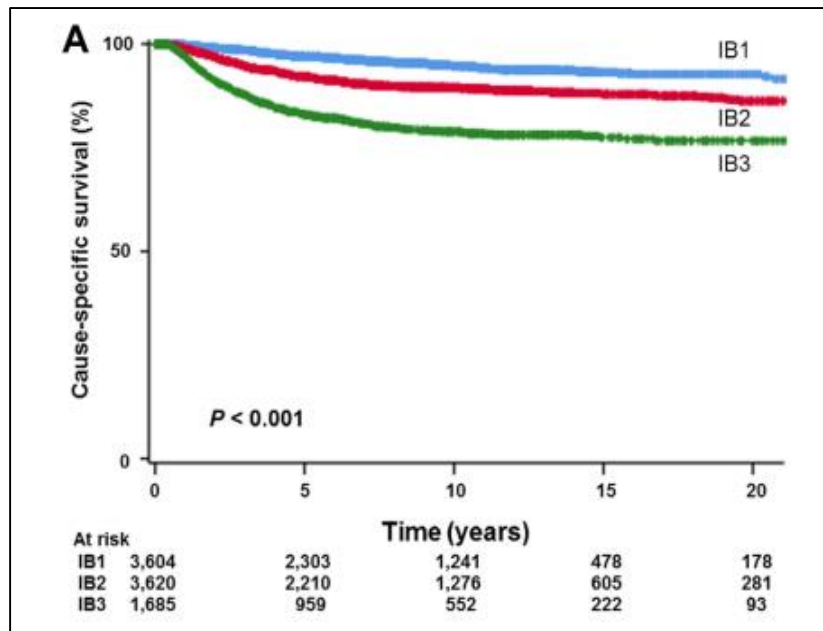
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	IB1	IB2	IB3
Cause specific survival	97%	92.1%	83.1%

$P < 0.001$

survival is significantly different between stage IB1 and IB2 disease, with nearly two-fold increased risk in cervical cancer mortality in stage IB2 disease compared to IB1 disease ($p=0.001$)



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Full length article

Is the revised 2018 FIGO staging system for cervical cancer more prognostic than the 2009 FIGO staging system for women previously staged as IB disease?



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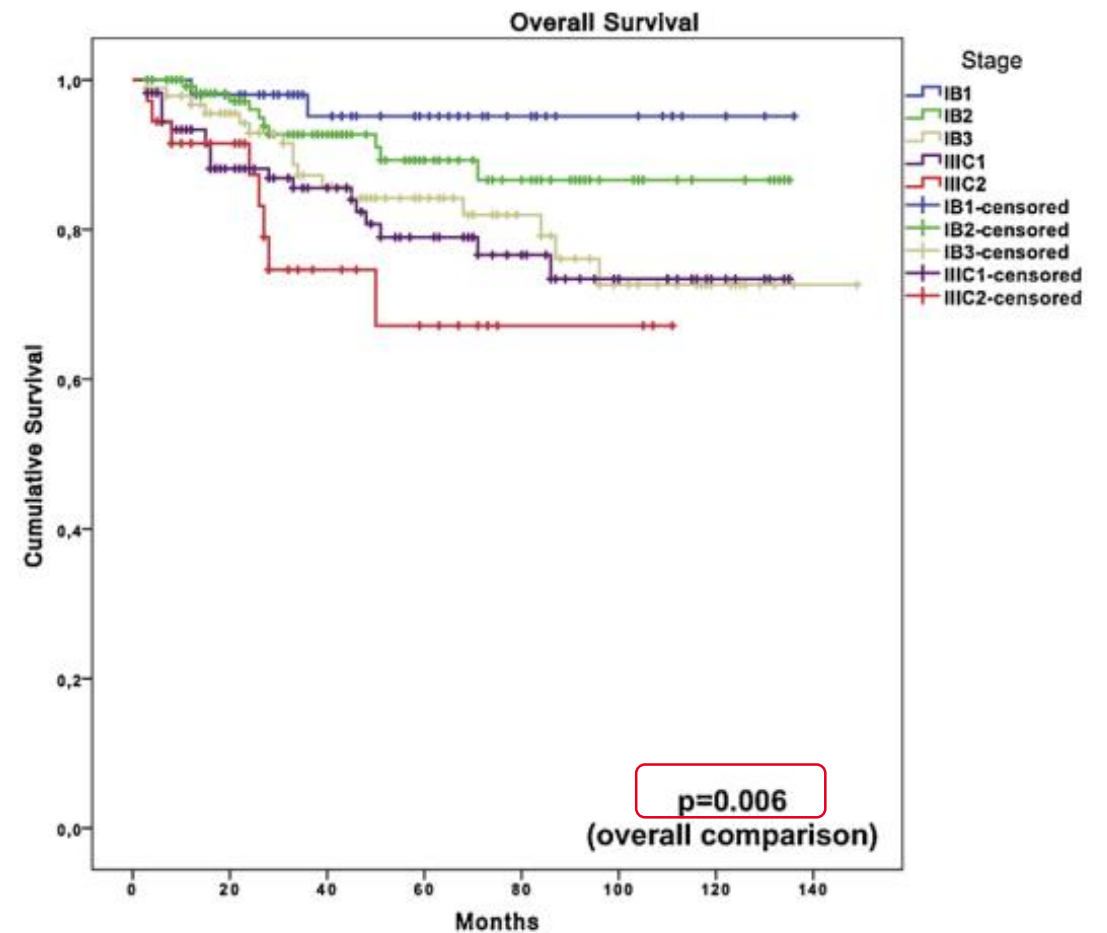
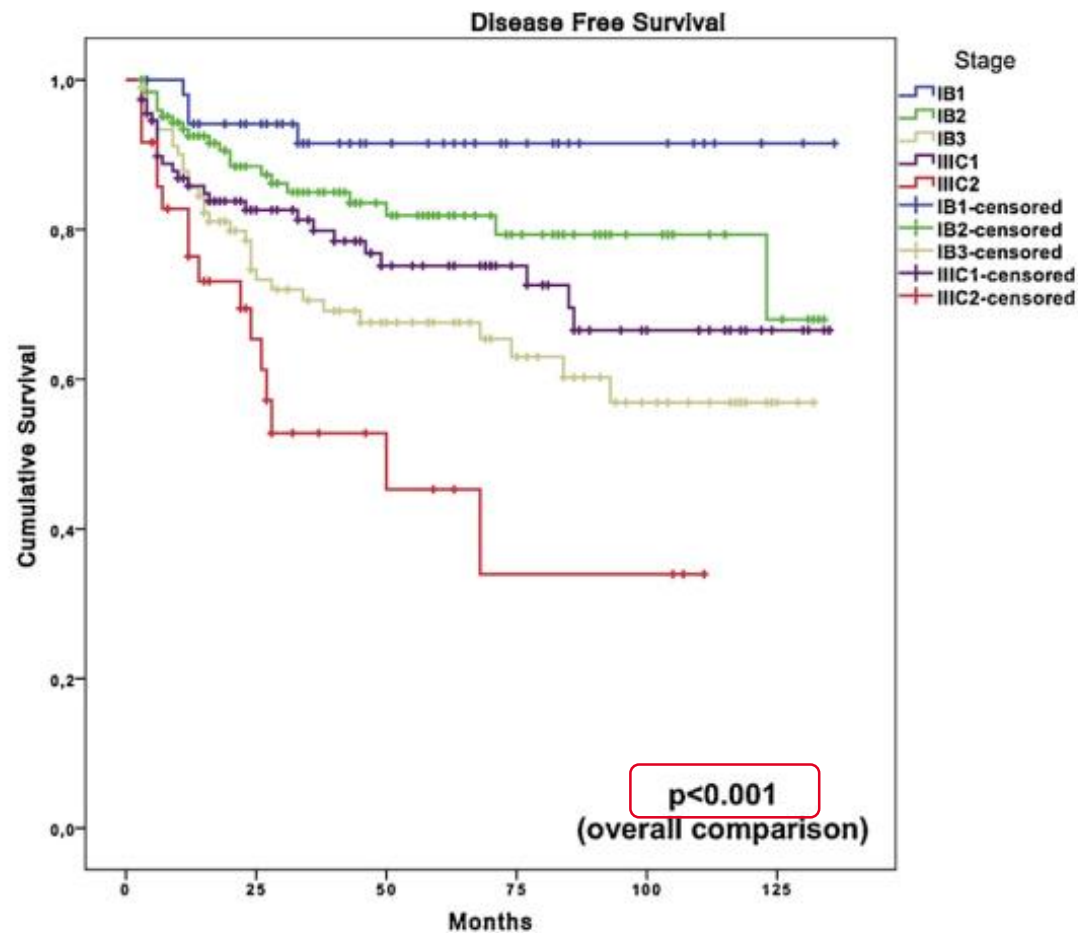
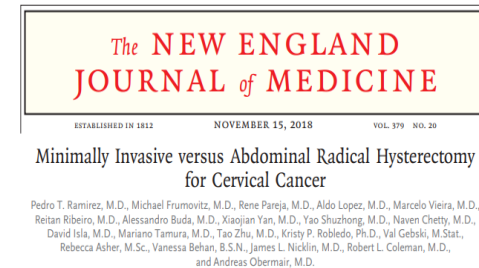


Fig. 1. Disease-free survival curves of women allocated to new stages according to the 2018 FIGO staging system for cervical cancer (stage IB1 vs. stage IB2, $p = 0.11$; stage IB2 vs. stage IB3, $p = 0.01$; stage IIC1 vs. stage IIC2, $p = 0.003$).

Fig. 2. Overall survival curves of women allocated to new stages according to the 2018 FIGO staging system for cervical cancer (stage IB1 vs. stage IB2, $p = 0.23$; stage IB2 vs. stage IB3, $p = 0.12$; stage IIC1 vs. stage IIC2, $p = 0.34$).

Clinical implications of the FIGO 2018 Stage IB

- Dividing stage IB into 3 not 2 groups by size criteria will improve selection of patients between surgery and radiotherapy.
- Surgery is the preferred treatment of stage IB1 IB2
- The place of laparoscopy is now discussed after publishing the LACC Trial
- Patients with IB3 tumors are best managed with chemoradiotherapy
- Fertility sparing trachelectomy is an acceptable option for stage IB1 but not for IB2
- The role of Pet-CT for Ib2 and higher stages has been demonstrated in many studies.



Stage II classification

Stage II:

The carcinoma invades beyond the uterus, but has not extended onto the lower third of the vagina or to the pelvic wall

- **IIA** Involvement limited to the upper two-thirds of the vagina without parametrial involvement
 - **IIA1** Invasive carcinoma <4 cm in greatest dimension
 - **IIA2** Invasive carcinoma \geq 4 cm in greatest dimension
- **IIB** With parametrial involvement but not up to the pelvic wall

Clinical Implications of Stage II classification

- There is no change in staging system
- The size of the lesion can be measured clinically, or by imaging or pathology
- Any patient with positive lymph node gets upstaged stage IIIC

Stage III classification

Stage III:

The carcinoma involves the lower third of the vagina and/or extends to the pelvic wall and/or causes hydronephrosis or non-functioning kidney and/or involves pelvic and/or paraaortic lymph nodes^c

- **IIIA** Carcinoma involves the lower third of the vagina, with no extension to the pelvic wall
- **IIIB** Extension to the pelvic wall and/or hydronephrosis or non-functioning kidney (unless known to be due to another cause)
- **IIIC** Involvement of pelvic and/or paraaortic lymph nodes, irrespective of tumor size and extent (with r and p notations)^c
 - **IIIC1** Pelvic lymph node metastasis only
 - **IIIC2** Paraaortic lymph node metastasis

The main changes in the revised FIGO staging system

- **IIIC** Involvement of pelvic and/or paraaortic lymph nodes, irrespective of tumor size and extent (with r and p notations)^c
 - **IIIC1** Pelvic lymph node metastasis only
 - **IIIC2** Paraaortic lymph node metastasis

The involvement of lymph nodes (LNs) according to either imaging (r) or pathology (p) has been described as a new sub-stage (stage IIIC)

**THE FIGO COMMITTEE CONSIDERED THE EFFECT OF LYMPH
NODE METASTASIS ON PROGNOSIS**



Validation of the 2018 FIGO cervical cancer staging system

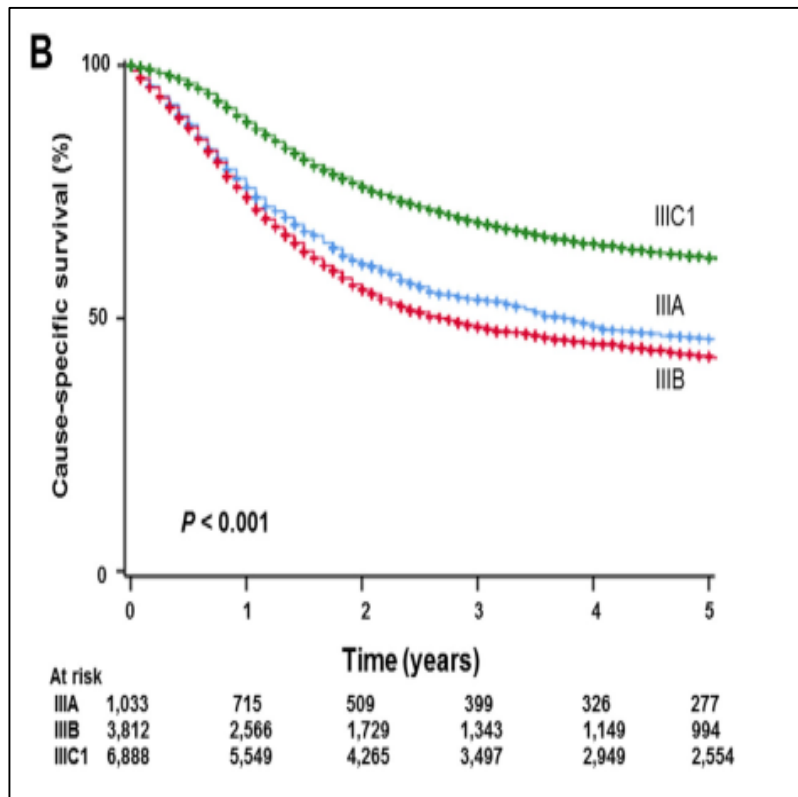
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	IIIC1	IIIB	IIIA
Cause specific survival	62.1%	42.6%	46%

$P < 0.001$

	T1	T2	T3
Cause specific survival	74.8%	58.7%	39.3%

$P < 0.001$

Clinical implications of stage III classification

- Pathological confirmation of lymph node involvement is the standard but imaging can be used to interpret disease extent because identifying positive lymph nodes has major implications for treatment management and prognosis
- Stage IIIC2 needs to be distinguished from other metastatic extra-pelvic sites due to differences in prognosis

Stage IV classification

Stage IV:

The carcinoma has extended beyond the true pelvis or has involved (biopsy proven) the mucosa of the bladder or rectum. A 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

Clinical implications of stage IV classification

Stage IV remains unchanged

CONCLUSION



- Staging system needs to be reviewed according to recent developments in biological therapy, imaging technology and minimally invasive surgery
- The revised staging system does not mandate the use of a specific imaging technique, lymph node biopsy, or surgical assessment of the extent of tumor. In low-ressourced conditions, clinicians can continue to assess the patient clinically
- Non availability of an imaging modality should not be a reason to delay the initiation of treatment.

Cervix uteri

Source: Globocan 2018



PREVENTION

HPV immunisation
of adolescent girls

SCREENING

Screening and
treatment for cervical
pre-cancer

TREATMENT

Diagnosis and
treatment for cervical
cancer, including
palliative care

WHO PROGRAM 2030



Thank you for your attention...