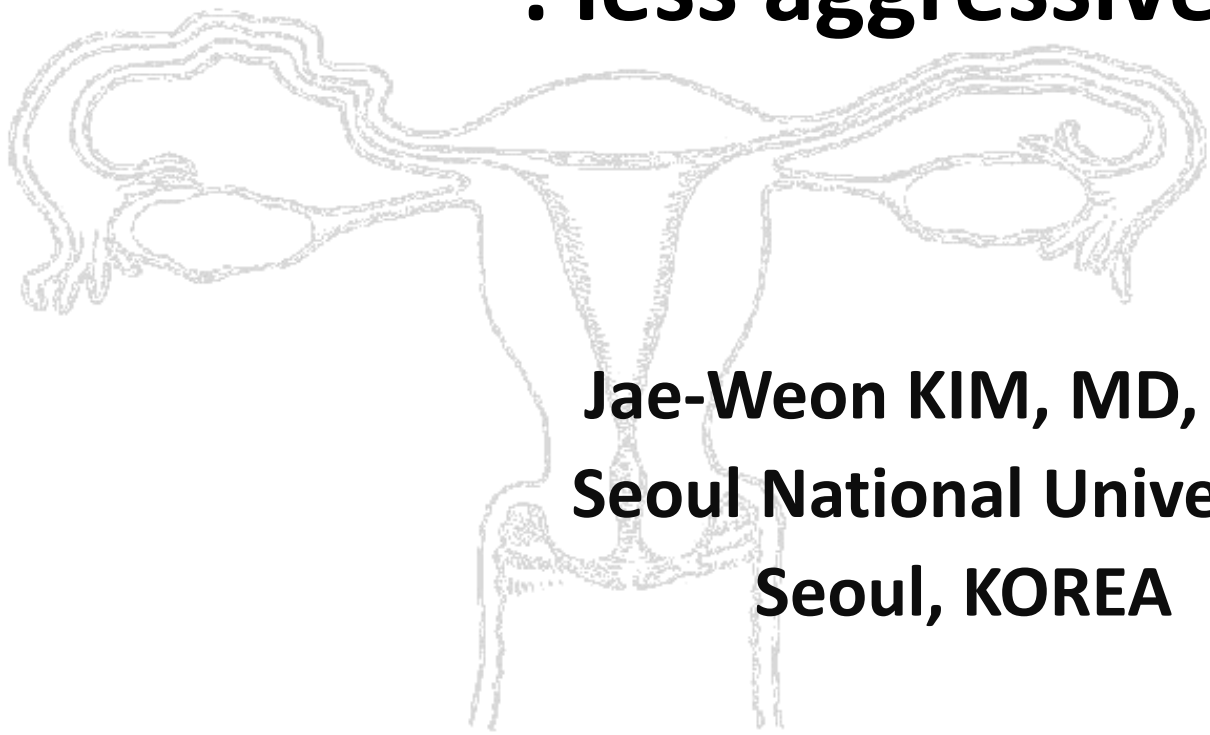


The 3rd ASGO Int'l Workshop on Gynecologic Oncology
9:25~9:50 am, 24th August 2014



Surgery for early stage cervical cancer : less aggressive way



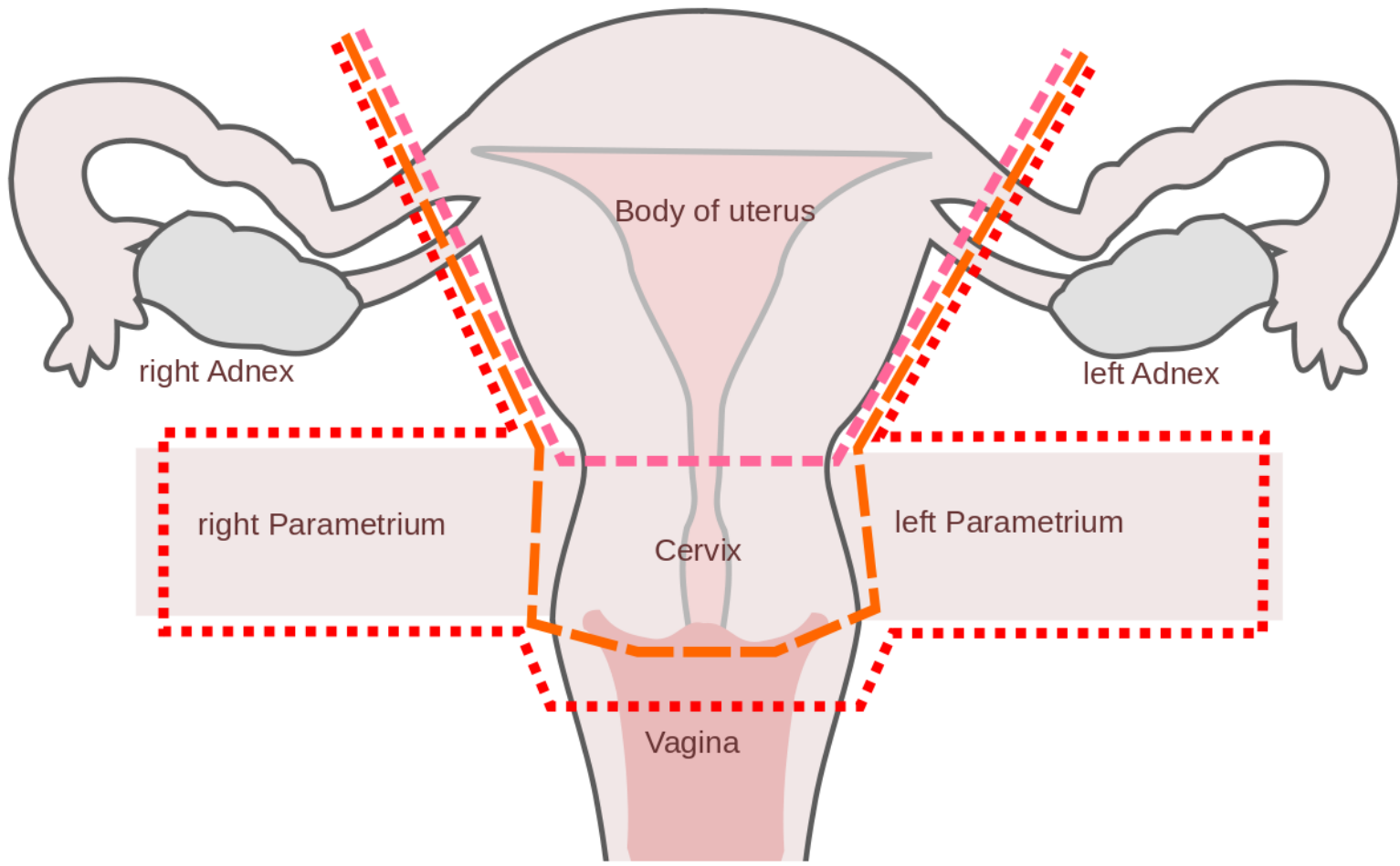
Jae-Weon KIM, MD, PhD
Seoul National University
Seoul, KOREA

Verbal Disclosure

I have nothing to disclose that may pose a conflict of interest.

To assure the highest quality of educational programming, organizing committee requires individuals who have the opportunity to affect the content of an educational activity to disclose any financial relationships with any commercial entity that may result in a potential conflict of interest.

Part of slides presented in this lecture were provided by the courtesy of members of KGOG & GCIG.



— total

••••• radical

Hysterectomy

How to describe it ..

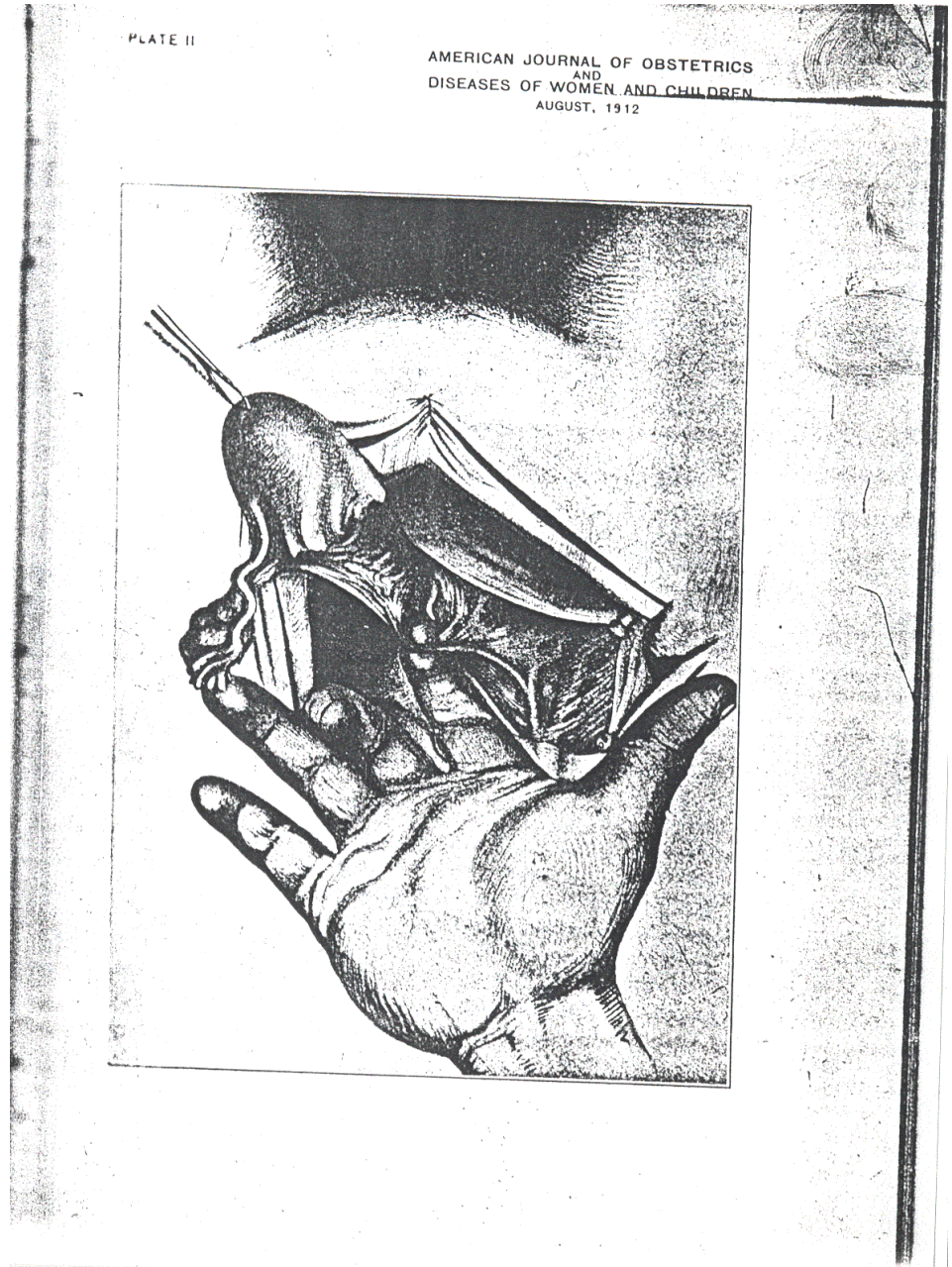
- Less radical: SHAPE, in this talk
- Non-radical: GOG 278
- Less aggressive: I prefer this one!
- Less wide
- Less extensive
- Conservative: MDACC *ConCerv* trial
- Curtailed

Different concept from..

1. Less-invasive surgery/MIS
2. Fertility-sparing surgery
3. Nerve-sparing rad hysterectomy



Wertheim E. The extended abdominal operation for carcinoma uteri: Based on 500 operative cases (Gradd H transl).



Morbidity of radical hysterectomy comes from ..

- **Hysterectomy *per se***
 - Infertility

Conization
(Radical) trachelectomy
- **Lymphadenectomy**
 - Lymphocele/lymphedema

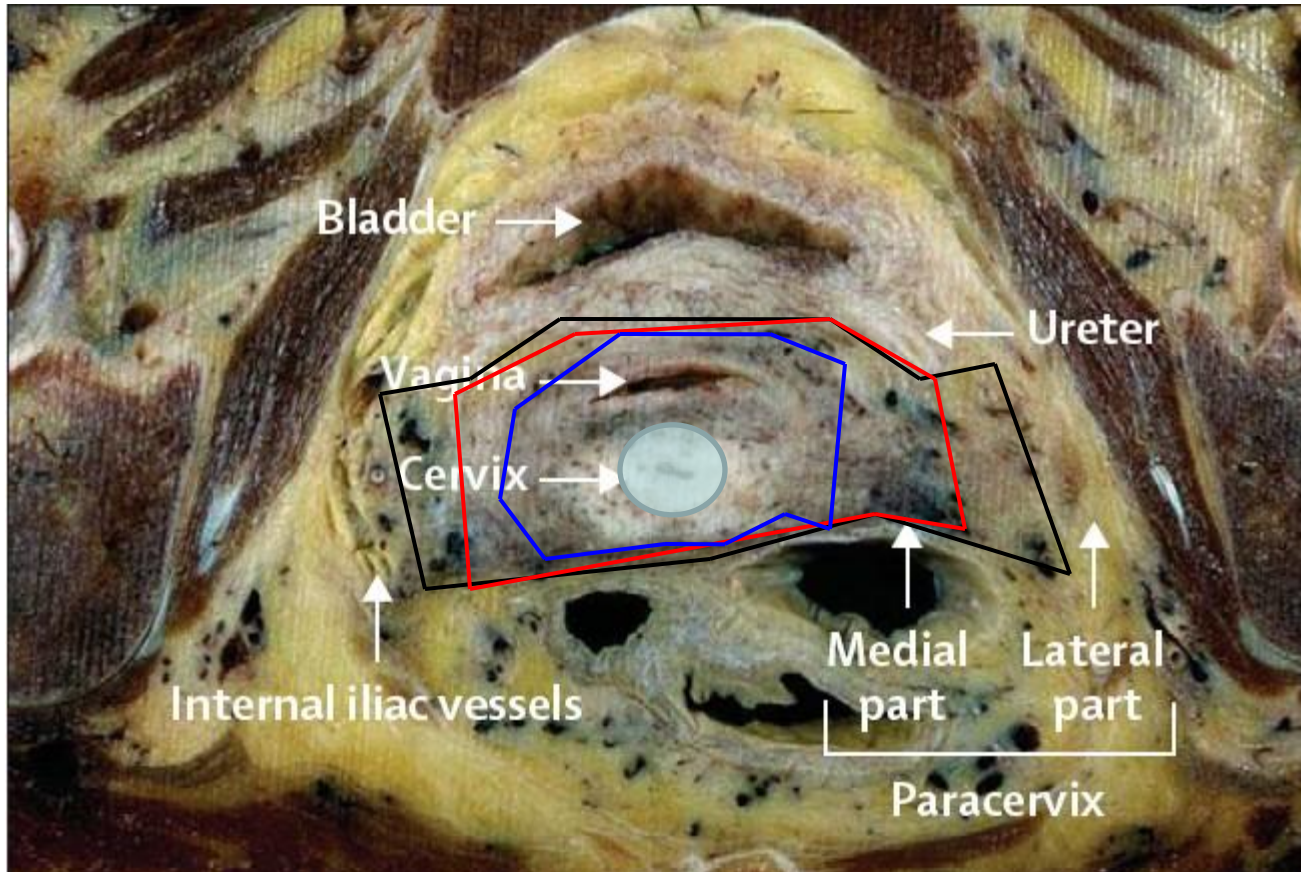
Sentinel LN
- **Parametrectomy**
 - Damage to autonomic nerve fibers
 - Bladder, rectal & sexual dysfunction

Less radical surgery

Purpose of parametrectomy

1. to secure surgical margin
2. to remove potential site of spread
 - parametrial tissue & LN

Surgical margin



A
B1
C2

New classification of radical hysterectomy

Querleu & Morrow, Lancet Oncol 2008

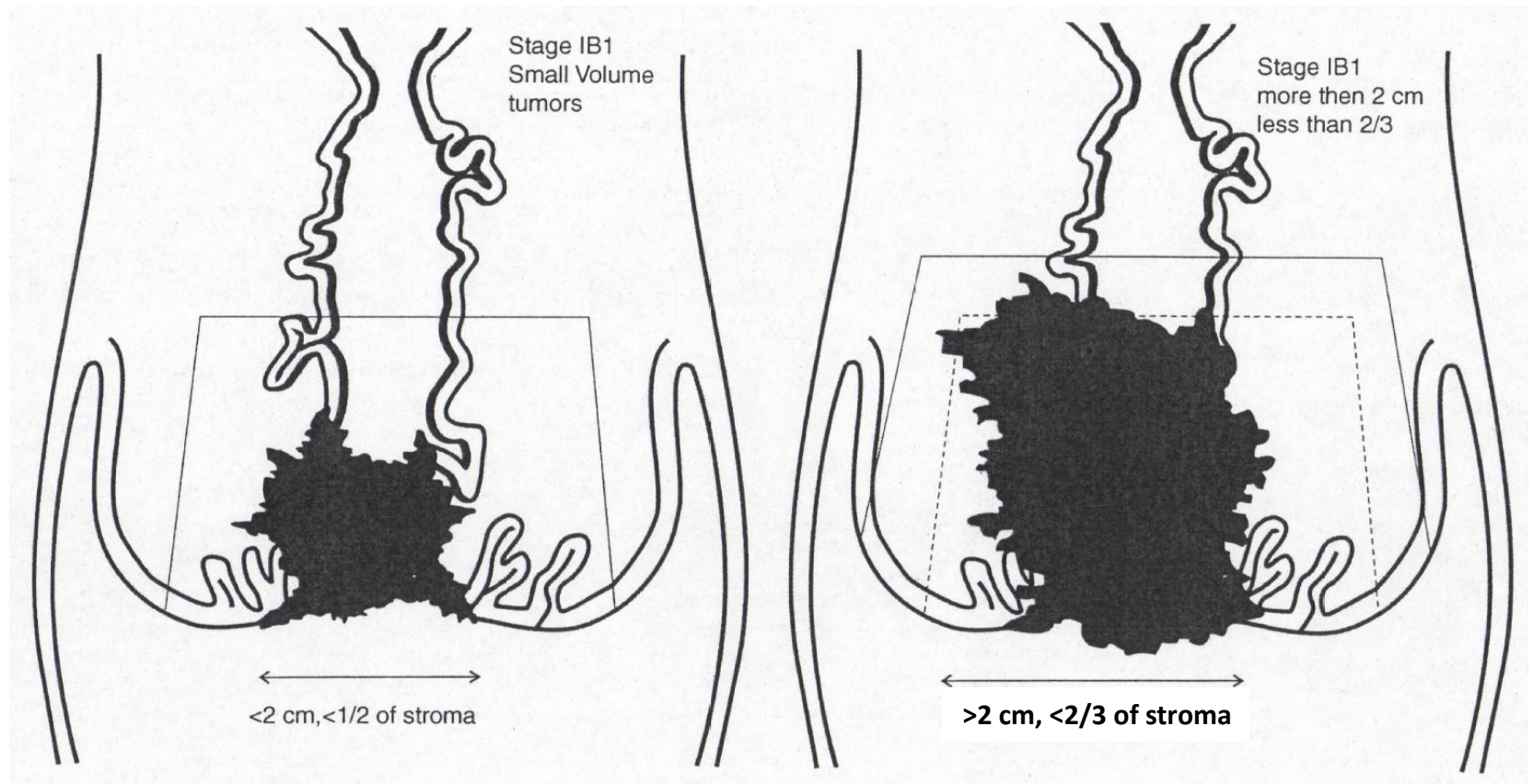
Purpose of parametrectomy

1. to secure surgical margin
2. to remove potential site of spread
 - parametrial tissue & LN

Low incidence of parametrial involvement in small volume tumor

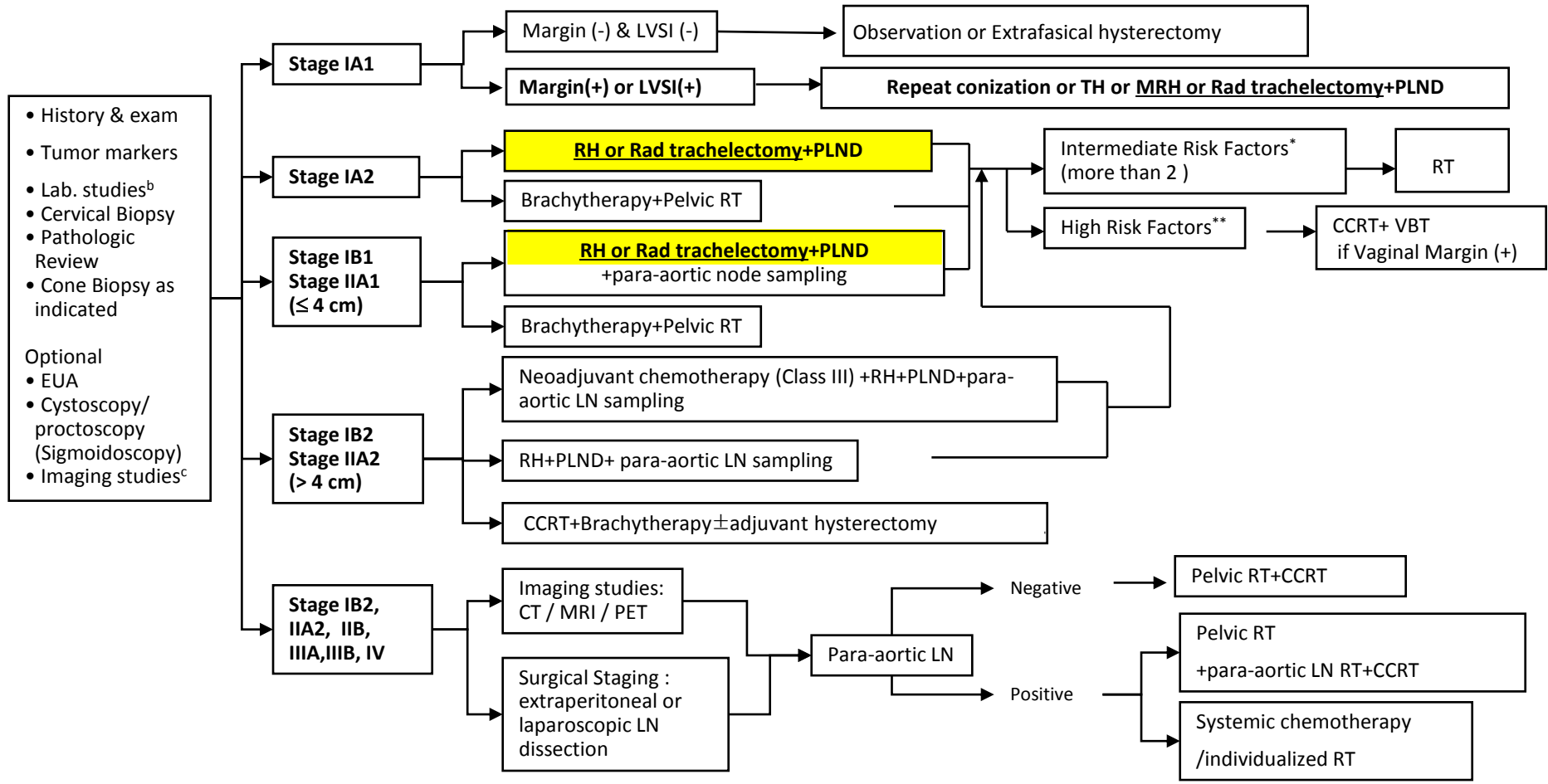
- **Literature review** of patients with low-risk pathological features
 - Tumor <2cm, stromal invasion <10mm, no LVSI, (-)ve pelvic nodes
 - Risk of parametrial involvement: **0.63%** (5/799)

Authors	No. of patients	Stage	Tumor size	LVSI	Depth of invasion	PI+ PLN-
Kinney 1995	83	IB	< 2cm	absent	0.4-1.8 cm	0/83
Covens 2002	842	IA-IB1	≤ 2cm vs. > 2cm	+/-	<10 mm vs. >10 mm	3/536
Sonoda 2004	89	IA-IB1	< 2cm			0/77
Stegeman 2007	103	IA-IB1	< 2cm	+/-	< 10mm	2/103





KSGO Practice Guideline for Cervical Cancer, v2



^a Tumor markers; SCC Ag, CEA, CA-125 if clinically indicated

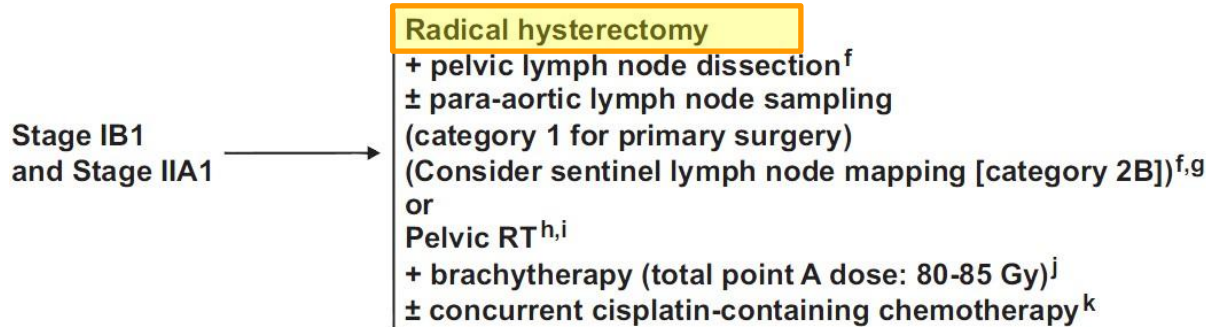
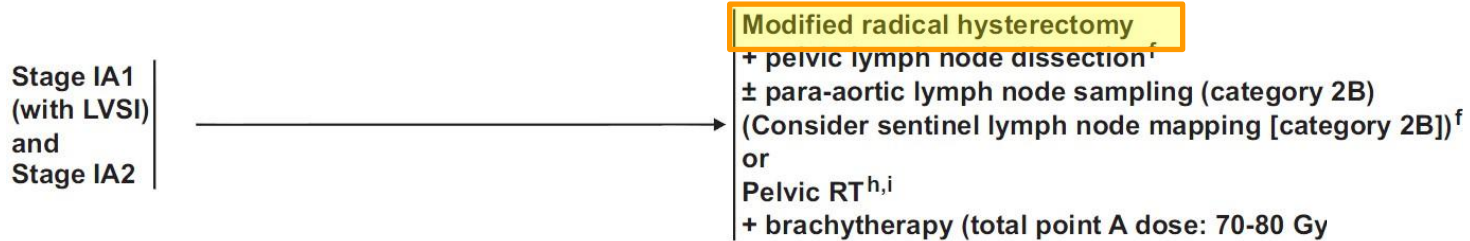
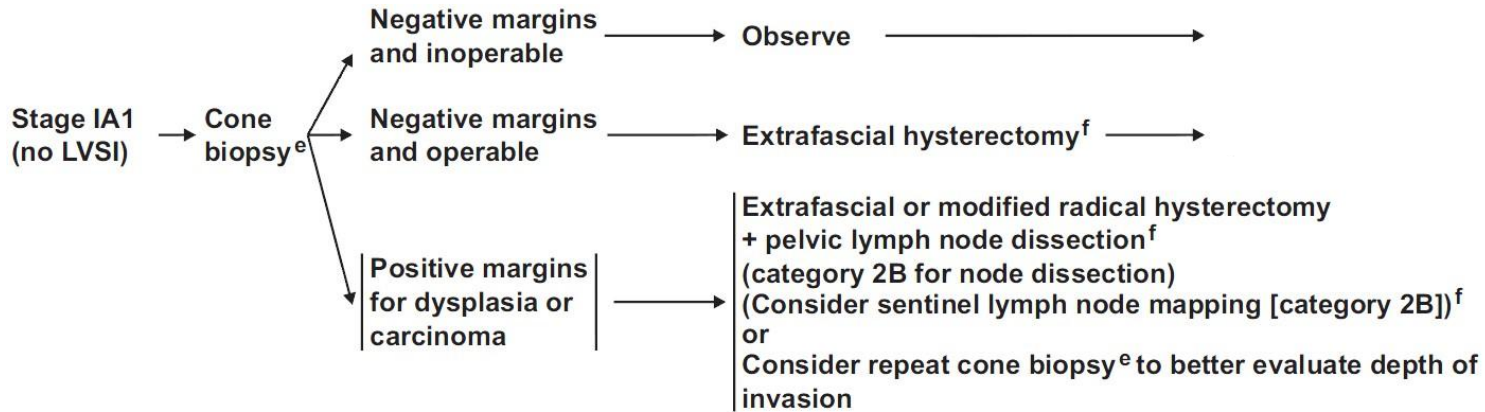
^b Lab. studies; CBC with platelets, chemistry profile, IVP, ECG and urine analysis

^c Imaging studies; Chest X-ray, Abdomino-pelvic CT, MRI, PET if clinically indicated

* Intermediate-risk Factors; Larger tumor size, Cervical Stromal Invasion to the middle or deep one third, Lymph-vascular space invasion

** High Risk factors; Positive margin, Positive Lymph Nodes, Microscopic parametrial Involvement

- RT: radiation therapy
- TH: total hysterectomy
- (M)RH: (modified) radical hysterectomy
- CCRT: concurrent chemoradiation
- VBT: Vaginal Brachytherapy



What kind of evidence do we have?

Level of Evidence	Information source
I	Large double blind RCTs, or meta-analyses of smaller RCTs, clinically relevant outcomes
II	Small RCTs, non-blinded RCTs, RCTs using valid surrogate markers
III	Non-randomised controlled studies, observational (cohort) studies , case-control studies, or cross-sectional studies
IV	Opinion of expert committees or respected authorities
V	Expert opinion

Only one prospective cohort study

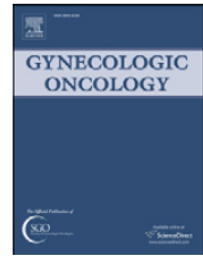
- Outcomes of 60 patients, Pluta *et al*
 - lesions < 2cm & < 50% stromal invasion
 - sentinel node mapping followed by complete pelvic lymphadenectomy & simple vaginal hysterectomy
- No recurrences in either the 55 node-negative or the 5 node-positive patients
 - median follow-up of 47 months



Contents lists available at ScienceDirect

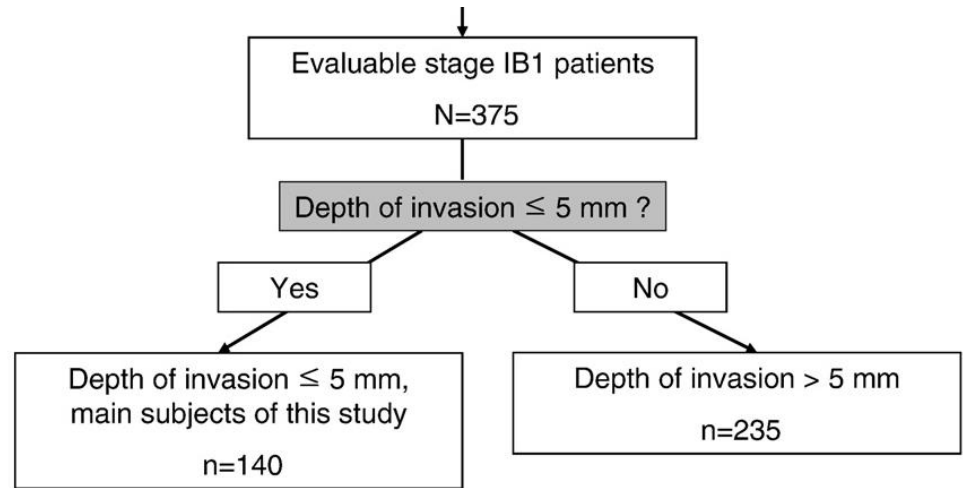
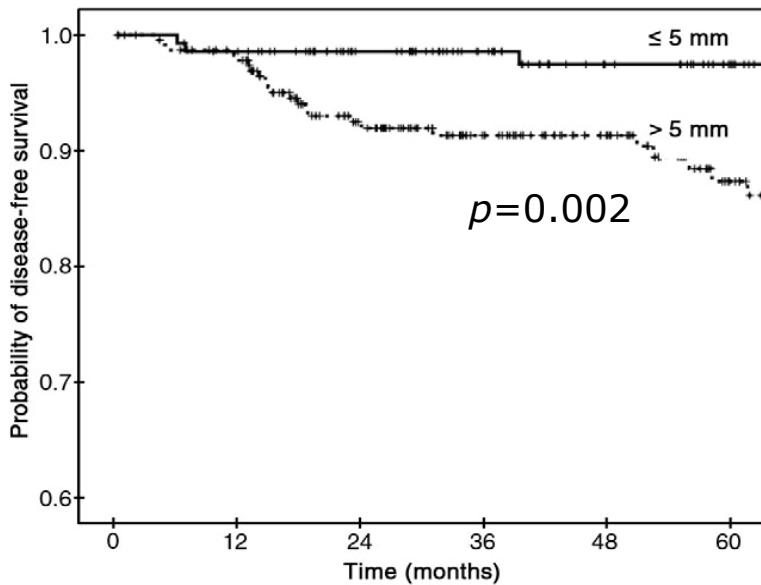
Gynecologic Oncology

journal homepage: www.elsevier.com/locate/ygyno



Feasibility of less radical surgery for superficially invasive carcinoma of the cervix

Mi-Kyung Kim ^a, Jae Weon Kim ^{a,b,*}, Min A Kim ^c, Hee Seung Kim ^a, Hyun Hoon Chung ^a, Noh-Hyun Park ^a, In Ae Park ^c, Yong-Sang Song ^{a,b,d}, Soon-Beom Kang ^a



2 Loop Electrosurgical Excision Procedure Findings for Identification of Patients With Early-Stage Cervical Cancer Suitable for Less Radical Surgery

Mi-Kyung Kim, MD, Min A Kim, MD, PhD,† Jae Weon Kim, MD, PhD,*‡ Hyun Hoon Chung, MD, PhD,*‡ Noh-Hyun Park, MD, PhD,* Yong-Sang Song, MD, PhD,*‡§ and Soon-Beom Kang, MD, PhD**

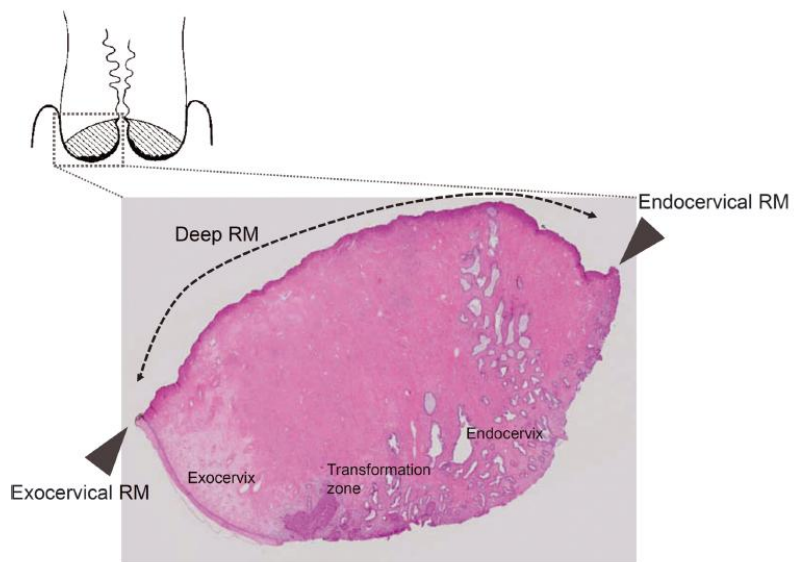


FIGURE 1. A gross section of a LEEP specimen illustrating the locations of resection margins.

	Depth ≤5 mm, LEEP	Depth >5 mm, LEEP
Endocervical RM -	PM+ 0% (0/24) LNM+ 0% (0/24) Depth >5 mm, hyst 0% (0/24)	PM+ 0% (0/11) LNM+ 0% (0/11) Depth >5 mm, hyst 9.1% (1/11)
Endocervical RM +	PM+ 6.9% (5/72) LNM+ 8.3% (6/72) Depth >5 mm, hyst 19.4% (14/72)	PM+ 8.7% (2/23) LNM+ 26.1% (6/23) Depth >5 mm, hyst 52.2% (12/23)

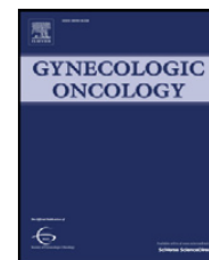
FIGURE 2. Risk of parametrial involvement according to the subgroups defined by depth of invasion and endocervical marginal status in LEEP specimens. Risks of nodal metastasis and depth of residual tumors greater than 5 mm are also indicated. PM, Parametrial involvement; LNM, lymph node metastasis; hyst, hysterectomy specimens.



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Contents lists available at ScienceDirect

Gynecologic Oncology

journal homepage: www.elsevier.com/locate/ygyno

Preoperative MRI criteria for trials on less radical surgery in Stage IB1 cervical cancer



Jung-Yun Lee^a, Jina Youm^a, Tae Hun Kim^a, Jeong Yeon Cho^b, Min A Kim^c, Dong Hoon Suh^d, Myong Cheol Lim^e, Jae-Weon Kim^{a,*}, Noh Hyun Park^a, Yong-Sang Song^a

^a Department of Obstetrics and Gynecology, Seoul National University College of Medicine, Seoul, Republic of Korea

^b Department of Radiology, Seoul National University College of Medicine, Seoul, Republic of Korea

^c Department of Pathology, Seoul National University College of Medicine, Seoul, Republic of Korea

^d Department of Obstetrics and Gynecology, Seoul National University Bundang Hospital, Gyeonggi-do, Republic of Korea

^e Center for Uterine Cancer, National Cancer Center, Goyang, Gyeonggi-do, Republic of Korea

MRI-based tumor diameter, mm

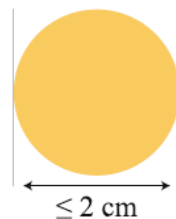
	≤ 20	20-25	25-30	30-35	>35	Total
Total	1/91 (1.1%)	3/43(7.0%)	3/28(10.7%)	5/11(45.5%)	7/17(41.2%)	19/190(10.0%)
MRI-based PMI						
No	0/88(0.0%)	0/39(0.0%)	2/25(8.0%)	3/9(33.3%)	2/8(25.0%)	7/169 (4.1%)
Yes	1/3(33.3%)	3/4(75.0%)	1/3(33.3%)	2/2(100%)	5/9(55.6%)	12/21 (57.1%)

PMI, parametrial involvement

Safe Criteria for Less Radical Trachelectomy in Patients with Early-Stage Cervical Cancer: A Multicenter Clinicopathologic Study

Hee Seung Kim, MD^{1,2}, Chel Hun Yong Beom Kim, MD, PhD⁶, Min Byoung-Gie Kim, MD, PhD³, Yong and Jae Weon Kim, MD, PhD^{1,2}

Tumor Size



Less radical trachelectomy

- Simple trachelectomy
- No lymphadenectomy

Consideration

The current criteria

- Importance of favorable pathologic factors such as stromal invasion ≤ 10 mm and no lymph-vascular space invasion (LVSI)
- Favorable pathologic factors
 - 1) Parametrial invasion: $\leq 1.6\%$
 - 2) Lymph node metastasis (LNM): $\leq 8.3\%$
 - 3) The need of adjuvant radiotherapy: $\leq 6.6\%$

The safe criteria

- Less consideration of favorable prognostic factors such as stromal invasion ≤ 5 mm and no LVSI
- Very low rates (nearly 0%) of parametrial invasion, LNM and the need of adjuvant radiotherapy

CALL for PAPERS

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Journal of
Gynecologic
Oncology

WWW.EJGO.ORG

Journal of Gynecologic Oncology (JGO) invites authors, especially from Asia, to submit high quality original research work and to the advancement of care of the patients with gynecologic cancer.

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We hope JGO will be a gynecologic oncology platform for the researchers in this field, especially from Asian region.

Online submission is available at



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Asian Society of
Gynecologic Oncology

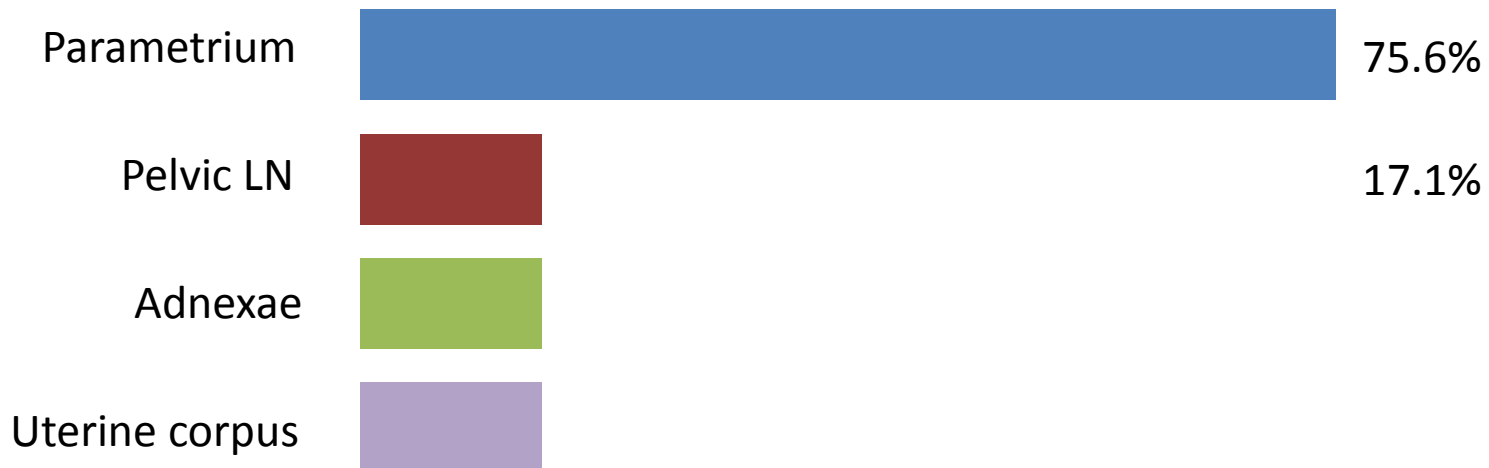


**Findings of an survey by the Korean Society of
Gynecologic Oncology (KSGO)
Level of evidence in less-radical surgery for
early-stage cervical cancer.**

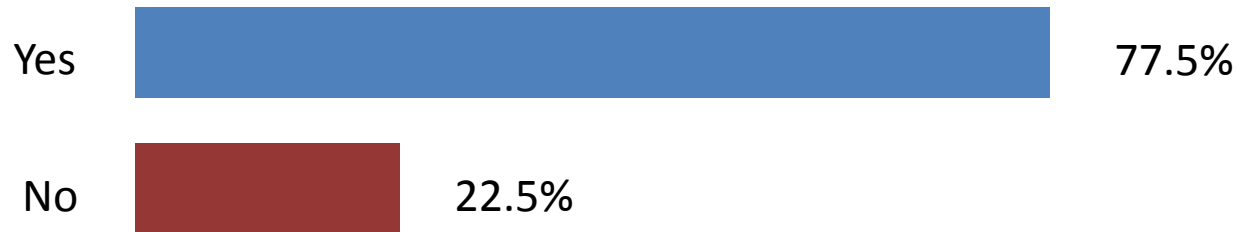
1. Do you know the concept of 'less radical surgery'?



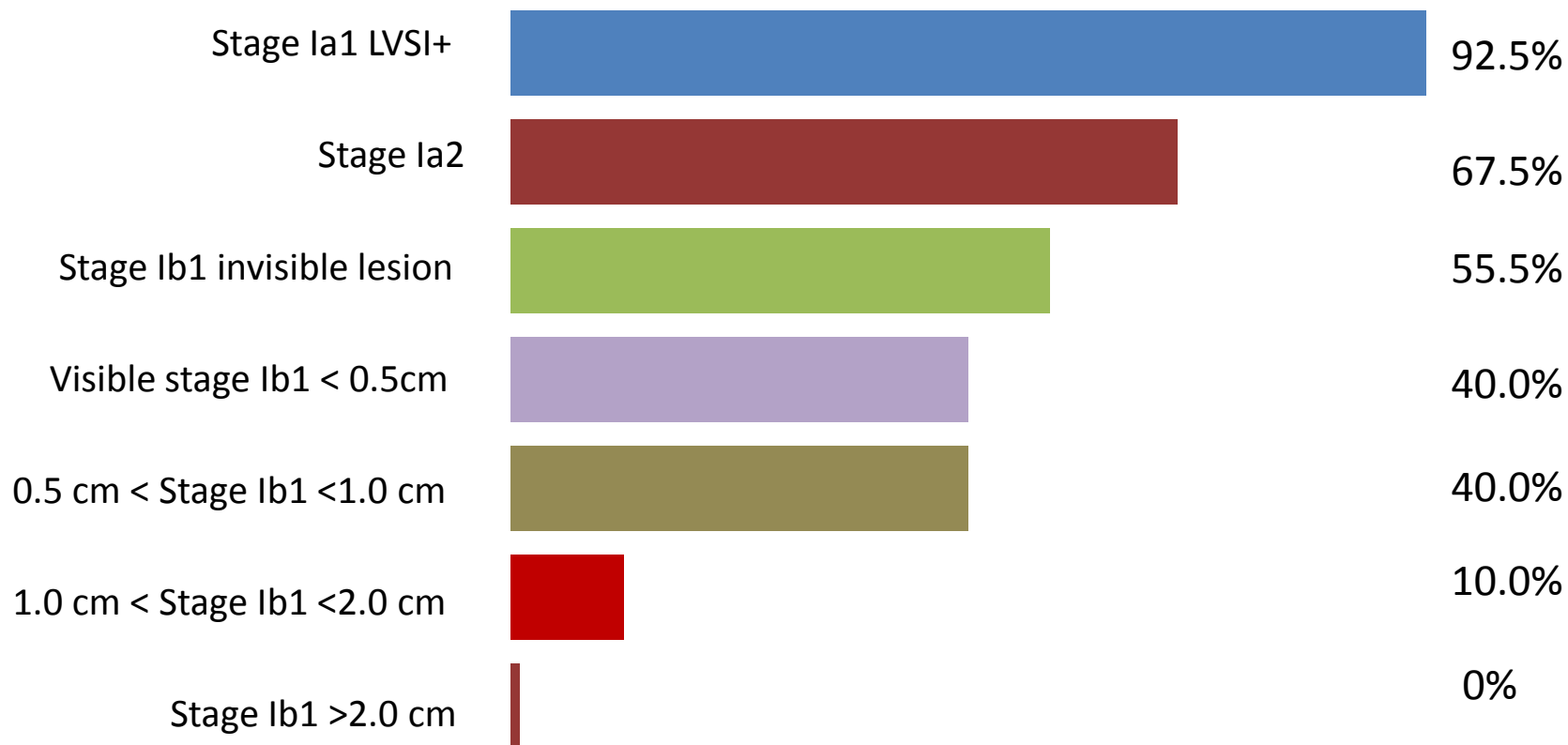
2. Which of the following part could be omitted in less radical surgery?



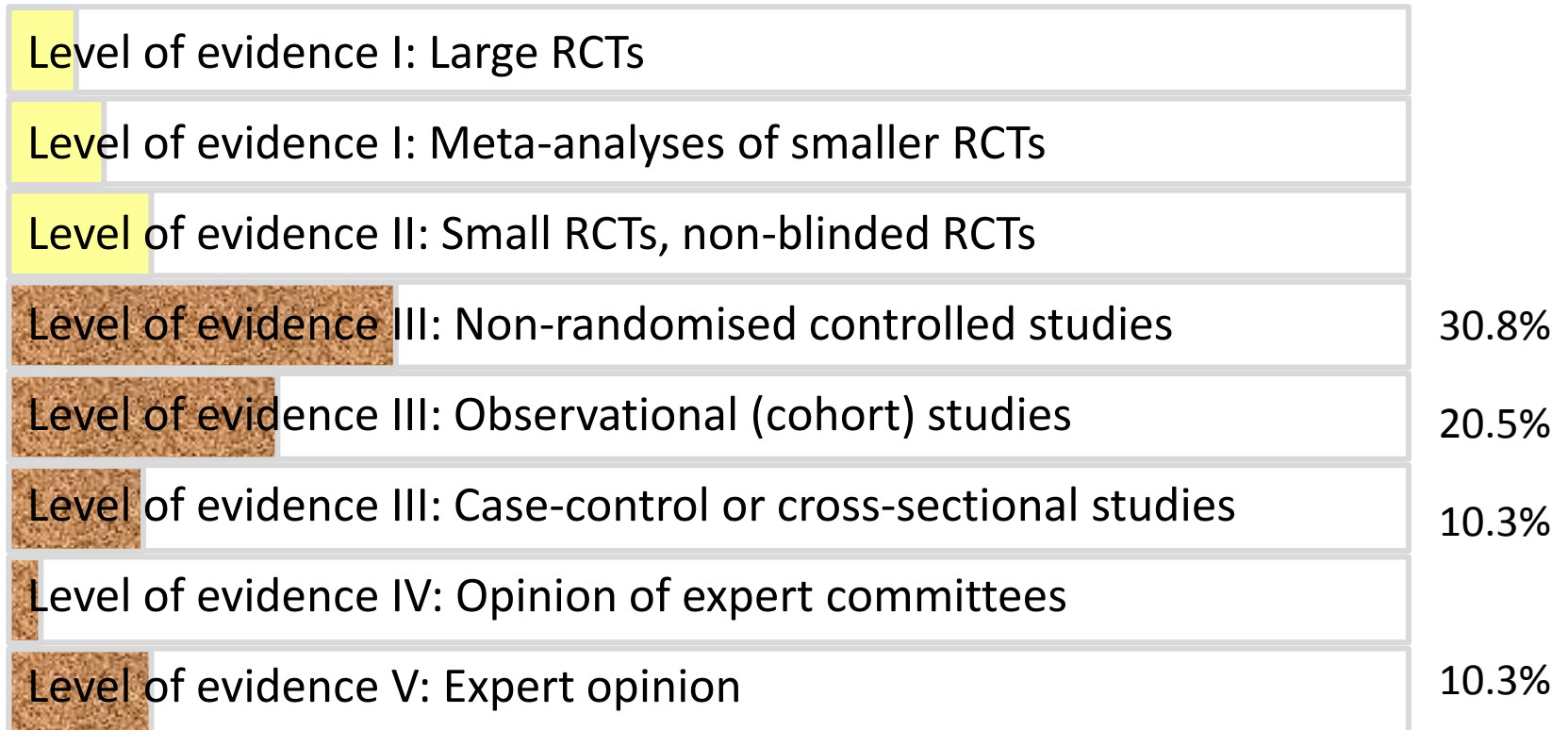
3. Have you ever performed less radical surgery in your clinical practice?



4. Please define the criteria for less radical surgery. (plural response permitted)



5. Up to date, what is your opinion about the level of evidence for less radical surgery?

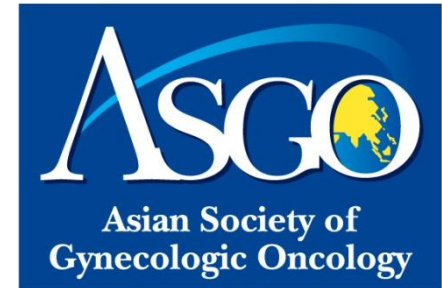


6. In order to perform less radical surgery in practice, which level of evidence is required?

Level of evidence I: Large RCTs	20.5%
Level of evidence I: Meta-analyses of smaller RCTs	28.2%
Level of evidence II: Small RCTs, non-blinded RCTs	25.6%
Level of evidence III: Non-randomised controlled studies	
Level of evidence III: Observational (cohort) studies	
Level of evidence III: Case-control or cross-sectional studies	
Level of evidence IV: Opinion of expert committees	
Level of evidence V: Expert opinion	



ASGO
2015



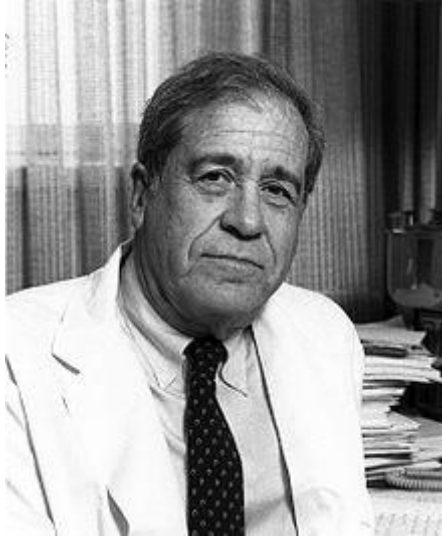
The 4th Biennial Meeting of
**Asian Society of
Gynecologic Oncology**

Date · Nov 12(Thu) - 14(Sat), 2015

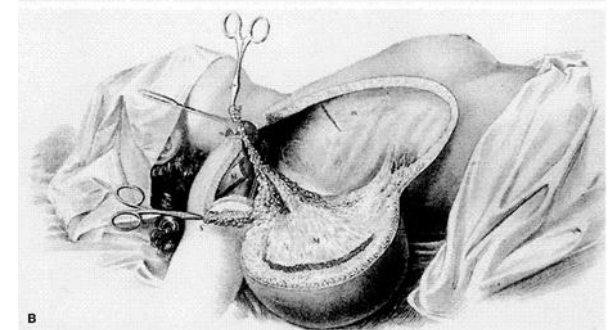
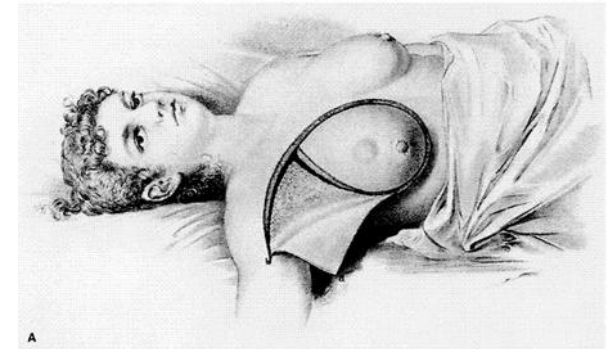
Venue · Seoul, Korea

asgo2015.org

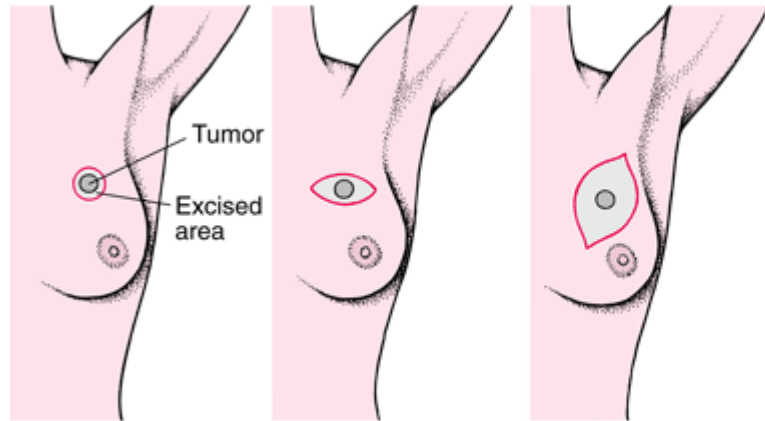
William Stewart Halsted (1852 - 1922)



Bernard Fisher (1918 -)



Breast-Conserving Surgery

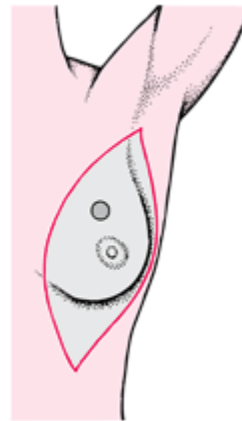


Lumpectomy

Wide Excision

Quadrantectomy

Breast Removal



Mastectomy

National Surgical Adjuvant Breast and Bowel Project (NSABP)

1958

The first patient was enrolled in the first NSABP randomized clinical trial.



1967

Dr. Bernard Fisher was appointed the chairman of the Surgical Adjuvant Chemotherapy Breast Project. Dr. Fisher moved the Operations and Biostatistical Centers to Pittsburgh, Pennsylvania.

1971

Up until this time, physicians thought that breast cancer was a local disease that could only be treated with the complete removal of the breast, chest wall muscle, and underarm lymph nodes (radical mastectomy). Protocol B-04 was one of the first studies that indicated that the total mastectomy was just as effective as the more extensive operation. This landmark study gave way to future breast-conserving procedures.

1976

The era of lumpectomy begins with Protocol B-06. This study was based on the results of Protocol B-04, and showed that removing just the tumor and the underarm lymph nodes plus adding radiation therapy was just as effective as a mastectomy, but was far less disfiguring.

1977

Protocols C-01 and R-01 were launched as the NSABP's first colorectal cancer treatment trials.

1982

Protocol B-14 was one of the first studies that evaluated tamoxifen therapy in women with negative axillary nodes who were estrogen-receptor positive (ER+). Results showed that women in the tamoxifen group had fewer recurrences of cancer and improved survival compared to the women who received placebo. This study later determined that there was no additional advantage for continuing tamoxifen therapy for more than five years.

1988

Protocol B-18 demonstrated that therapy prior to surgery reduced the size of breast tumors in 80% of patients, decreased the spread of the tumor to the lymph nodes and increased the number of women able to undergo lumpectomy.



1989

Protocol C-04 assessed 2,151 patients who underwent a "curative" resection of a Dukes' B or C carcinoma of the colon and demonstrated that the use of adjuvant 5-FU+ leucovorin is an acceptable therapeutic standard for such patients.

B-04 study scheme

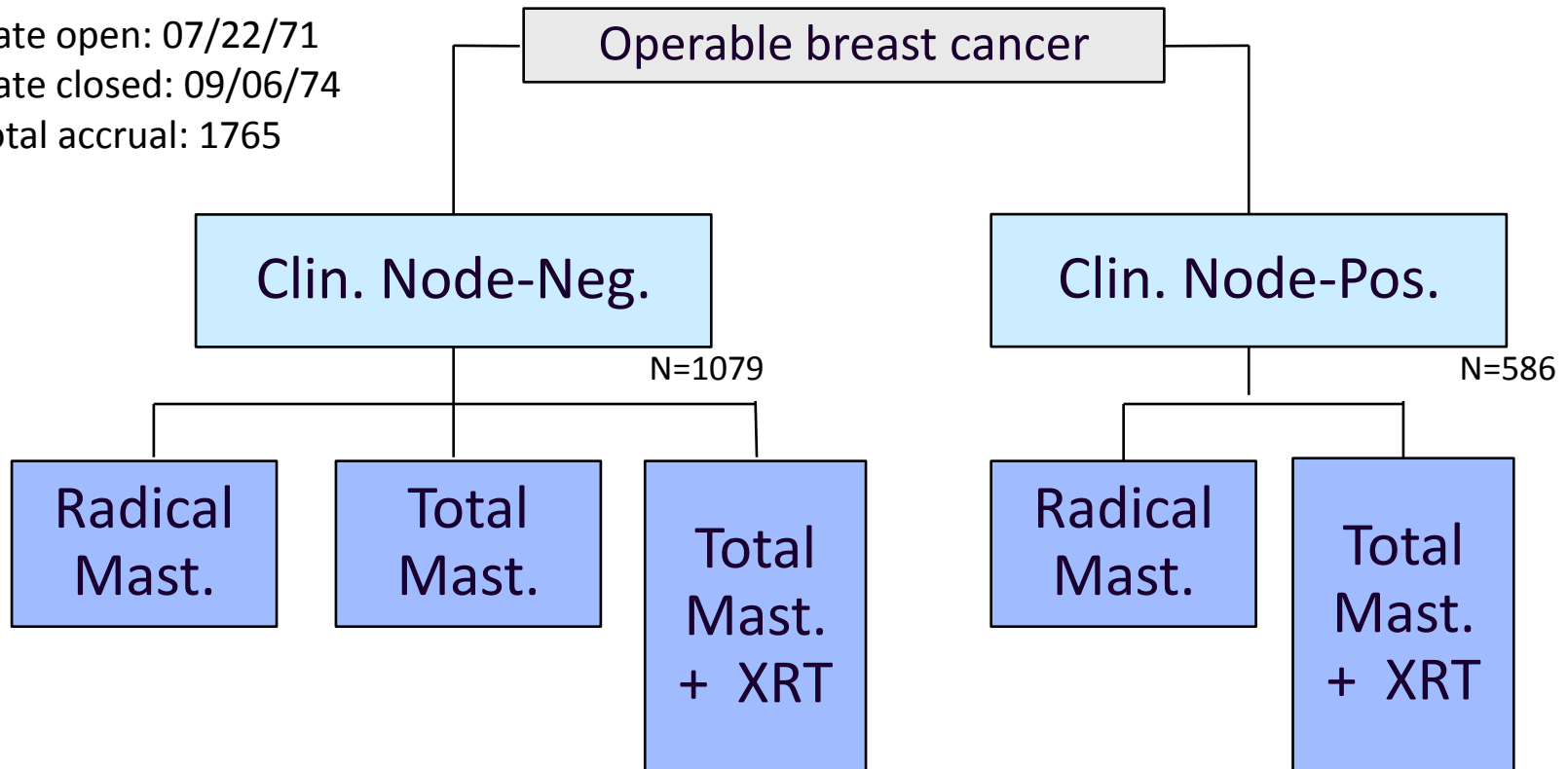
Evaluation of Radical Mastectomy and Total Mastectomy c/s Radiation in the Primary Treatment of Cancer of the Female Breast

5 arm

Date open: 07/22/71

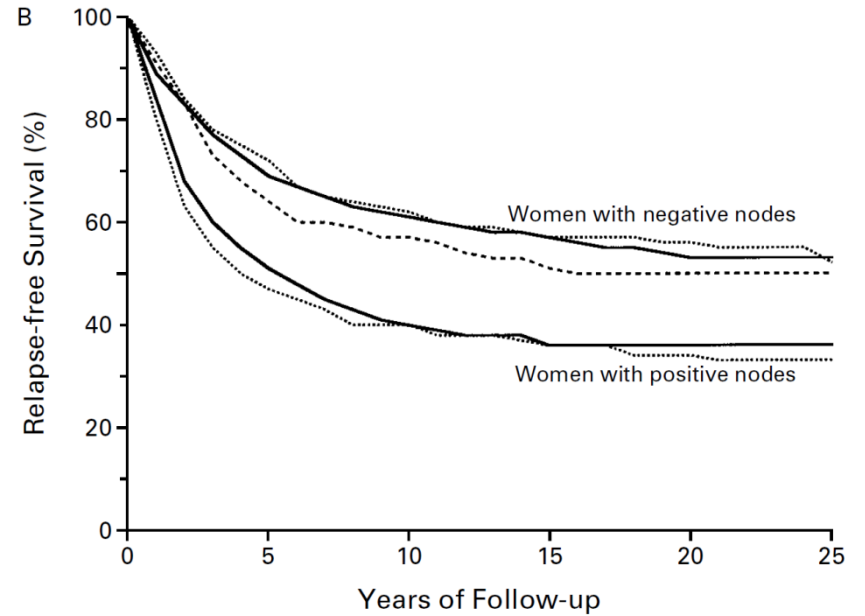
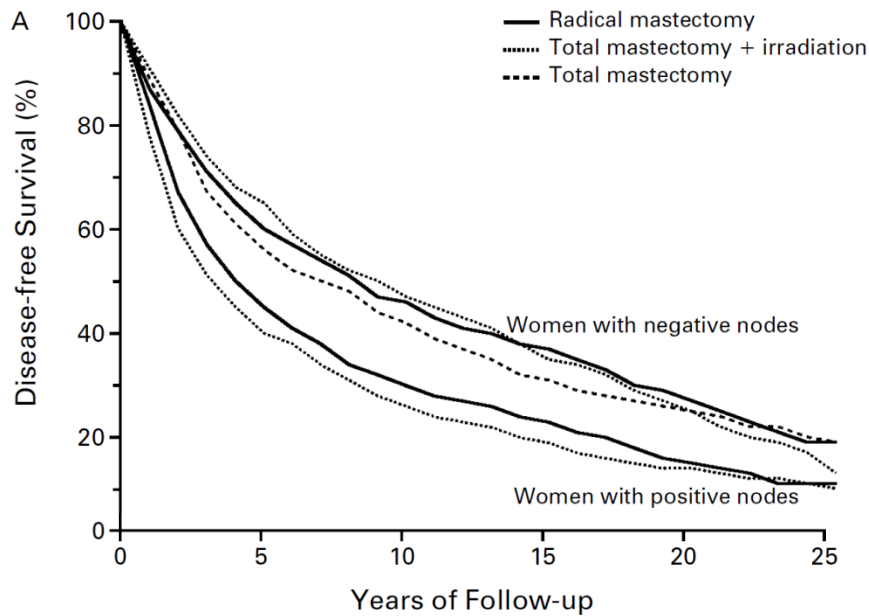
Date closed: 09/06/74

Total accrual: 1765



TWENTY-FIVE-YEAR FOLLOW-UP OF A RANDOMIZED TRIAL COMPARING RADICAL MASTECTOMY, TOTAL MASTECTOMY, AND TOTAL MASTECTOMY FOLLOWED BY IRRADIATION

BERNARD FISHER, M.D., JONG-HYEON JEONG, PH.D., STEWART ANDERSON, PH.D., JOHN BRYANT, PH.D., EDWIN R. FISHER, M.D., AND NORMAN WOLMARK, M.D.



B-06 study scheme

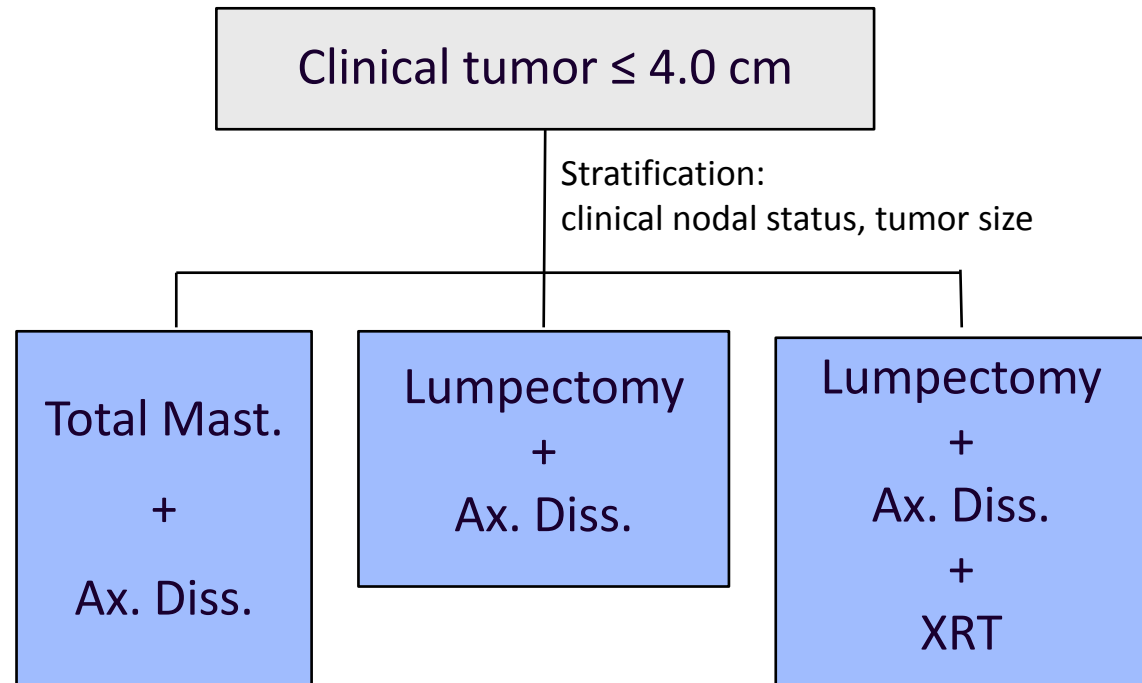
A Protocol to Compare Segmental Mastectomy and Axillary Dissection With and Without Radiation of the Breast and Total Mastectomy and Axillary Dissection

3 arm

Date open: 04/08/76

Date closed: 01/31/84

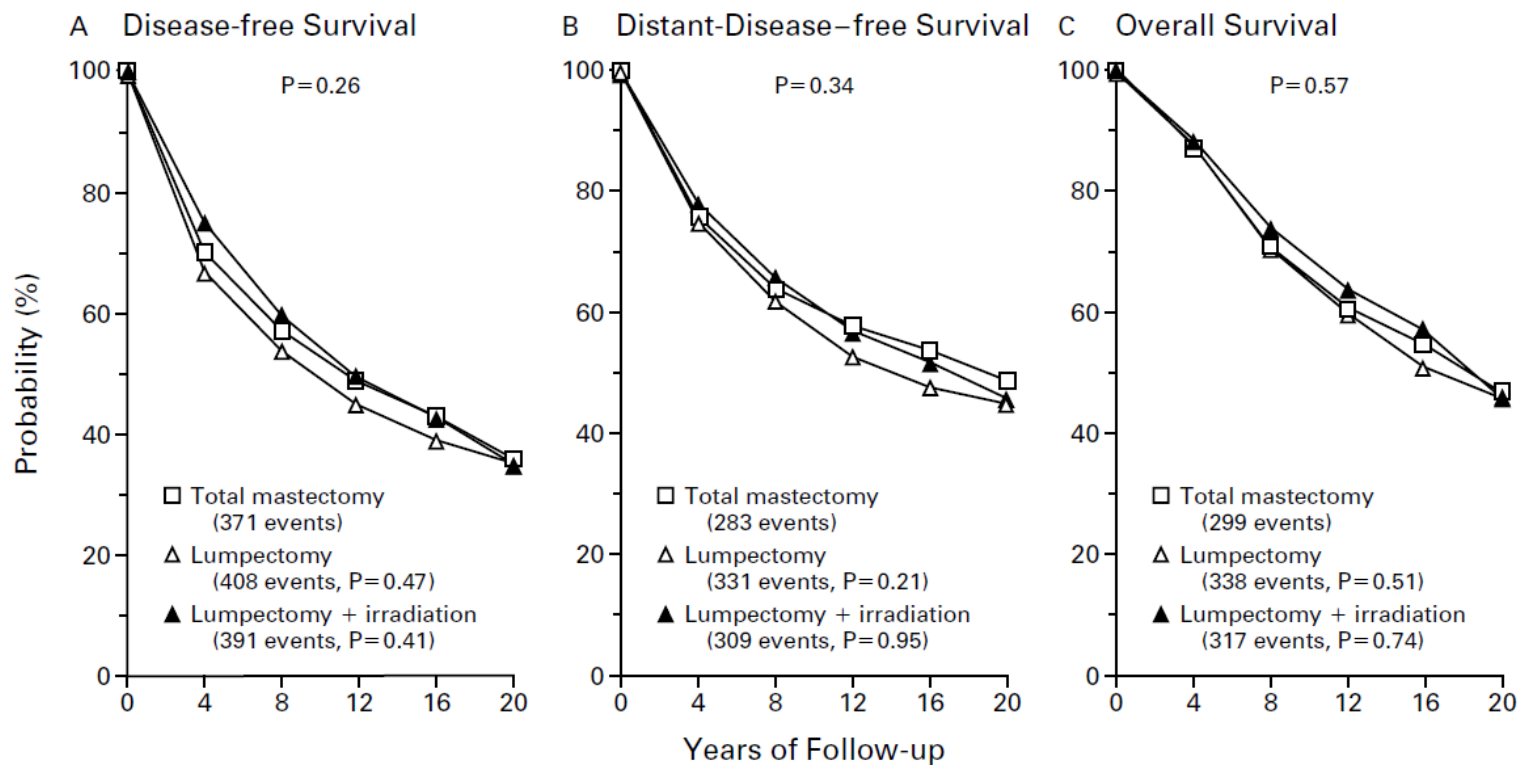
Total accrual: 2163



TOTAL MASTECTOMY VERSUS LUMPECTOMY

TWENTY-YEAR FOLLOW-UP OF A RANDOMIZED TRIAL COMPARING TOTAL MASTECTOMY, LUMPECTOMY, AND LUMPECTOMY PLUS IRRADIATION FOR THE TREATMENT OF INVASIVE BREAST CANCER

BERNARD FISHER, M.D., STEWART ANDERSON, PH.D., JOHN BRYANT, PH.D., RICHARD G. MARGOLESE, M.D., MELVIN DEUTSCH, M.D., EDWIN R. FISHER, M.D., JONG-HYEON JEONG, PH.D., AND NORMAN WOLMARK, M.D.



History of mastectomy after Halsted

Radical mastectomy

Modified radical mast.

Simple (total) mast.

Breast conserving surgery

B-04

5 arm
Date open: 07/22/'71
Date closed: 09/06/'74
Total accrual: 1765

B-06

3 arm
Date open: 04/08/'76
Date closed: 01/31/'84
Total accrual: 2163

**From radical to simple mastectomy to
lumpectomy + radiation**

2009 State of the State of Gynecologic Cancers

Seventh Annual Report to the Women of America

New surgical approaches are uniformly recommended and adopted after Phase III trials demonstrate superior safety, tolerability and/or effectiveness.

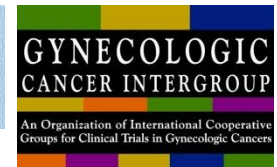
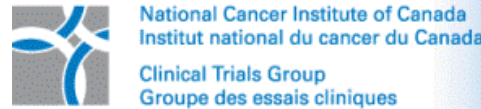
Larry J. Copeland, MD
Vice Chairman of GOG



**Gynecologic
Cancer
Foundation**

How to evaluate the role of less radical surgery in the low-risk cervical cancer?

- **Single arm prospective cohort study (registry)**
 - to be compared with similar sized contemporaneous cohort of pts treated by Modified rad H: ~160 pts
 - All pts should undergo a cone or LEEP prior to H
- **Two arms randomized trial**
 - Modified rad H/nodes vs. Simple H/nodes
 - Survival as primary endpoint: ~1500 pts
(80% power, difference of 2% in 2-yr pelvic relapse, i.e, 2 vs 4%)



Currently, 3 prospective studies are ongoing

Two prospective single arm cohort studies

1. GOG 278 (n=200~)
2. MDACC *ConCerv* study: NCT01048853 (n=100)

One randomized controlled phase III trial

3. SHAPE (n=700)

Women with IA1- IB1 (≤ 2 cm) carcinoma of the cervix **who have been consented for surgery** will be approached for study participation. Pre-entry cone biopsy/LEEP (depth of invasion ≤ 10 mm)

GOG 278

Study Entry

Pre-operative QOL Study Survey¹

Fertility Preservation Group:

Conization with pelvic lymphadenectomy
(If the lateral margins were positive on the first cone biopsy/LEEP, patients must have a second cone biopsy/LEEP at the time of the pelvic lymphadenectomy)

No Wish for Future Fertility Group:

Simple hysterectomy with pelvic lymphadenectomy (If the lateral margins were positive on the first cone biopsy/LEEP, patients must have a second cone biopsy/LEEP prior to hysterectomy)

Primary objective: bladder, bowel and sexual functional outcomes

If depth of invasion (sum of the pre and post entry biopsies) is ≤ 10 mm, only ECC is required.

If any of the following criteria are met, patient will be followed for survival only:

- Depth of invasion (sum of the pre and post entry biopsies) is >10 mm
- Positive pelvic lymph nodes on final pathology
- Adjuvant therapy required

If depth of invasion (sum of the pre and post entry biopsies) is ≤ 10 mm, proceed to hysterectomy.

Post-Operative

Follow-up Visits and QOL Study Surveys¹
4-6 weeks Post-Op and every 6 months (6, 12, 18, 24, 30, 36) for three years

Table 1. Current ongoing studies and new simplified criteria for less radical surgery

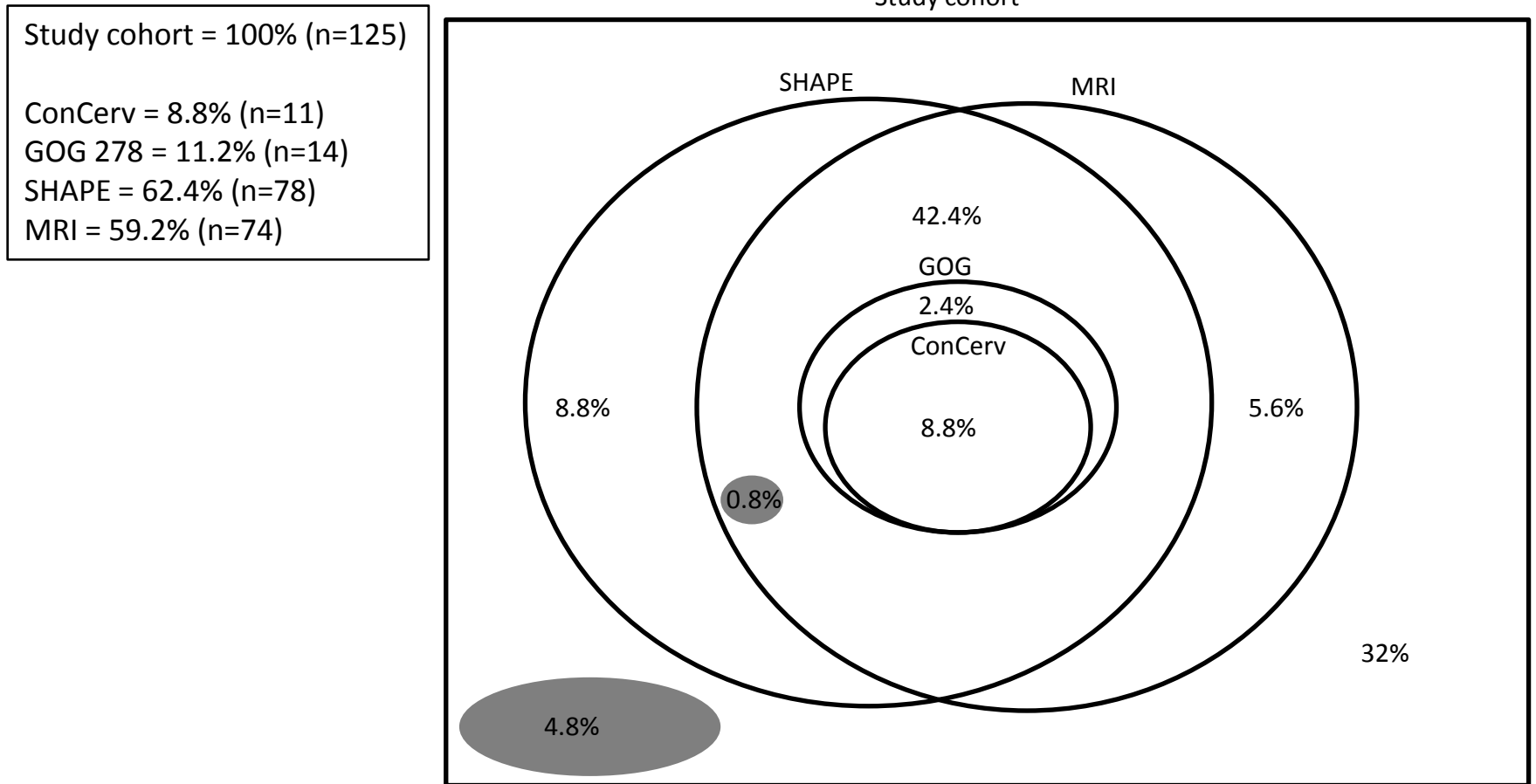
Study	Stage	Selection Criteria	Histology
ConCerv [11]	IA2, or IB1	tumor size \leq 2cm, No LVSI, and negative margin on cone	SCC, or AC ^a
GOG-278 [12]	IA1(LVSI+), IA2, or IB1	tumor size \leq 2cm, negative lateral margins, and depth of invasion \leq 10 mm on cone	SCC, AC, or ASC
SHAPE [13]	IA2, or IB1	tumor size \leq 2cm and $<$ 50% stromal invasion on MRI, and depth of invasion $<$ 10 mm on cone (if performed)	SCC, AC, or ASC
MRI	microscopic IB1	No demonstrate lesion on postconization MRI	SCC, AC, or ASC

Table 4. Performance of the criteria used in ongoing trials and MRI criteria

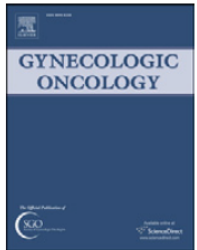
Study	No. of less radical surgery candidate (%)	No. of PMI in less radical surgery candidate (%)	Sensitivity	Specificity	NPV	PPV
ConCerv	11 (8.8%)	0 (0%)	100.00%	9.32%	100%	6.14%
GOG-278	14 (11.2%)	0 (0%)	100.00%	11.86%	100%	6.31%
SHAPE	78 (62.4%)	1 (1.3%)	85.71%	65.25%	98.72%	12.77%
MRI	74 (59.2%)	1 (1.4%)	85.71%	61.86%	98.65%	11.76%

PMI, parametrial involvement; PPV, positive predictive value; NPV, negative predictive value

Figure 2. Venn diagram for less radical surgery candidates.



Gray colored area is proportional to the rate of pathologic PMI

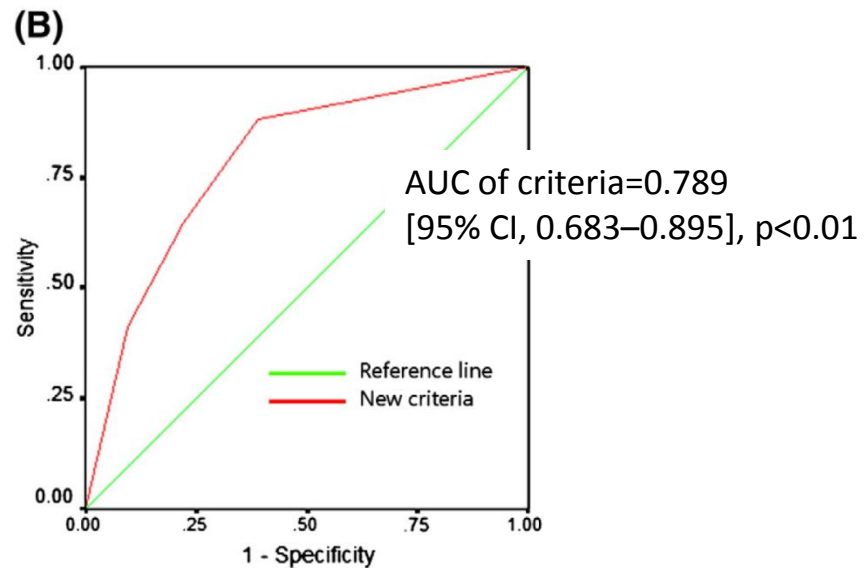
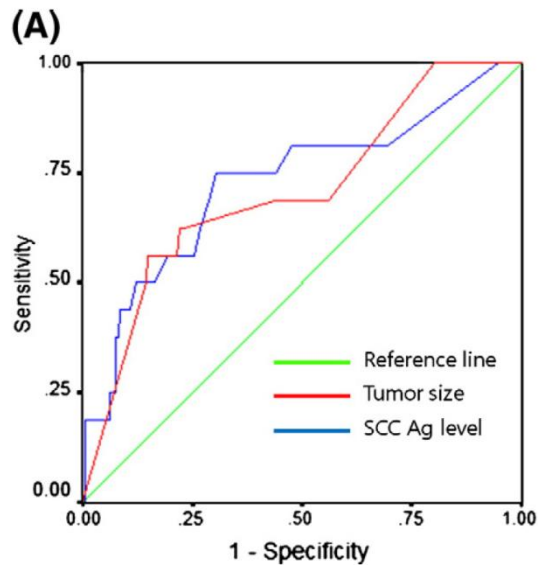


A model for prediction of parametrial involvement and feasibility of less radical resection of parametrium in patients with FIGO stage IB1 cervical cancer[☆]

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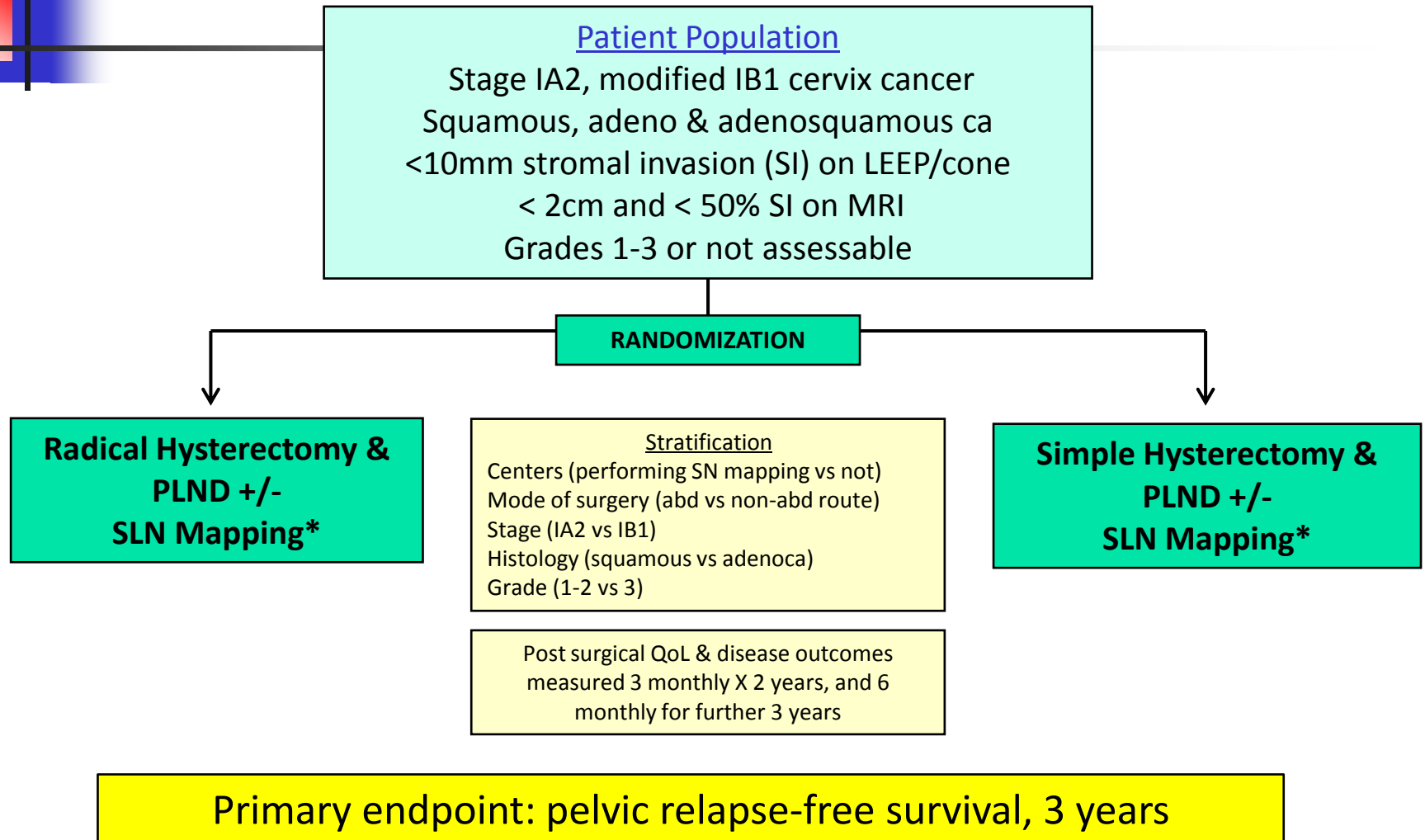
SHAPE Trial

Simple Hysterectomy And Pelvic node dissection in Early cervix cancer

Radical *versus* Simple Hysterectomy and Pelvic Node Dissection in Patients With Early Stage Cervical Cancer

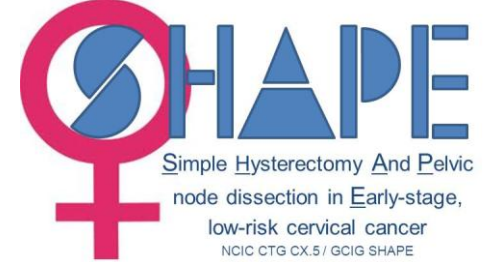
A prospective, randomized, international, multi-center
trial, led by the NCIC-CTG Study Group

SHAPE Trial : scheme





SHAPE Trial : criteria



Inclusion criteria

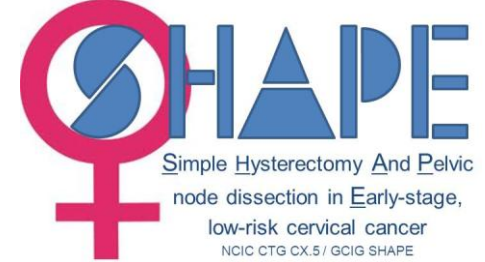
- Stage IA2~IB1 < 2cm cervix cancer pts
- < 50% stromal invasion (MRI) or <1cm depth of invasion on LEEP/cone
- Squamous, adeno or adenosquamous
- Grade 1, 2, 3
- Radiologically (MRI or CT) node negative

Exclusion criteria

- High risk histology: clear/small cell
- Stage IA1
- Neoadjuvant chemotherapy
- Pregnancy
- Desire to preserve fertility



SHAPE Trial : status



- This trial was activated on Aug 2012.
- Currently, as of Aug 2014, 40 patients have been randomized to this trial in Canada (33), Korea (5) and Austria (2).
- France, Germany, The Netherlands, Belgium, Ireland, UK and the Nordic countries will join this study.

My conclusion/suggestion are...

- Too much is as bad as too little.
- Join the crowd!
- At least one, preferable 2 (non-inferiority) phase III trials
- Action points
 - Join SHAPE trial.
 - Develop another SHAPE on the ASGO platform.

Thank you for your time & attention.

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