

**Gynecologic Cancer InterGroup
Cervix Cancer Research Network**



Role of Surgery in Cervical Cancer

David Cantú MD PhD

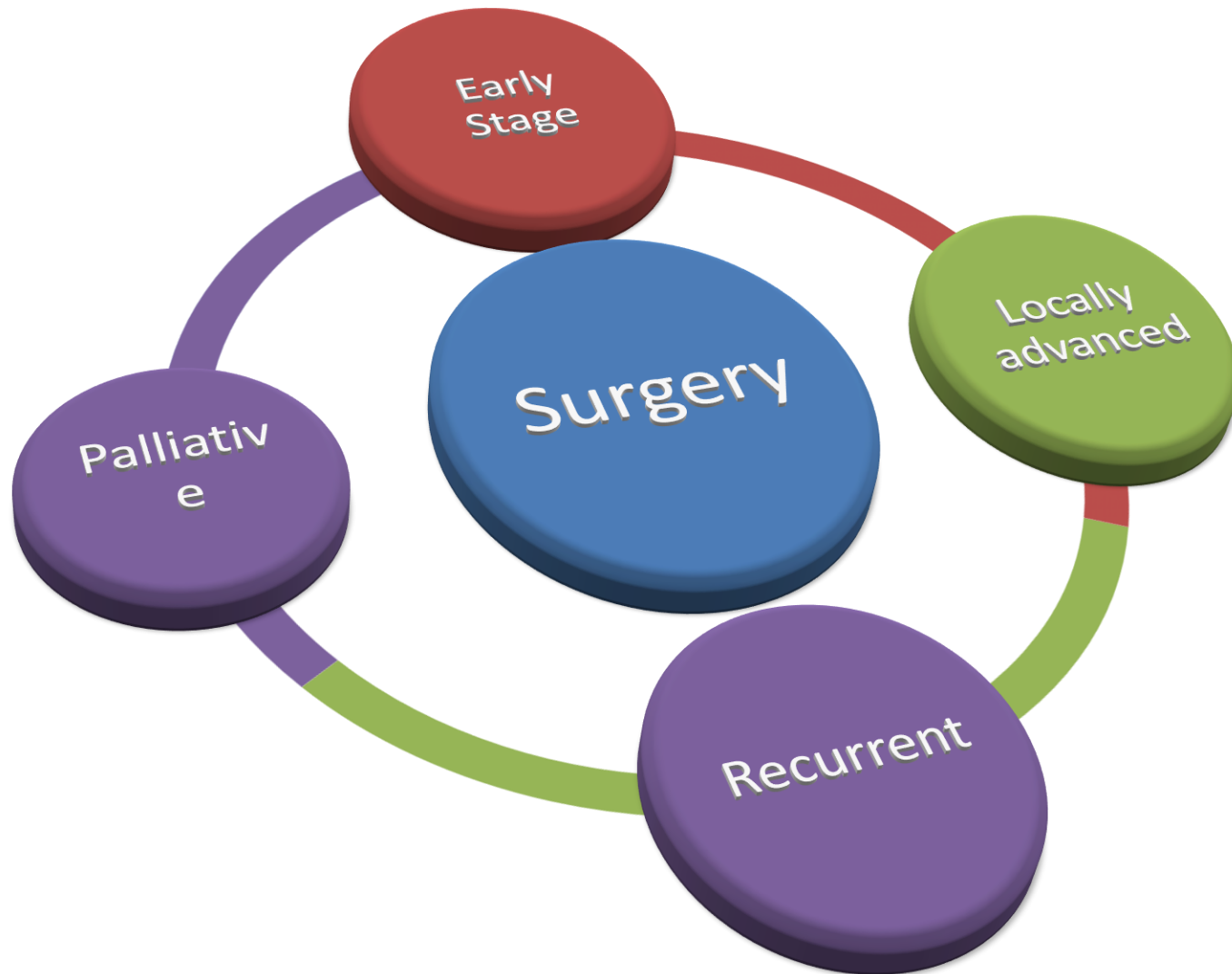
Cervix Cancer Education Symposium, January 2017, Mexico

Gynecologic Cancer InterGroup Cervix Cancer Research Network



Is it still an Issue to
be explored?

Cervix Cancer Education Symposium, January 2017, Mexico





- Continues to be the cornerstone of treatment in early stages

Gynecologic Cancer InterGroup Cervix Cancer Research Network



Contents lists available at [ScienceDirect](#)

Taiwanese Journal of Obstetrics & Gynecology

journal homepage: www.tjog-online.com



Review Article

Less radical surgery for early-stage cervical cancer: To what extent do we justify it?—Our belief

Nikolaos Thomakos*, Sofia-Paraskevi Trachana, Miona Davidovic-Grigoraki, Alexandros Rodolakis

First Department of Obstetrics and Gynecology, National and Kapodistrian University of Athens, Alexandra General Hospital, Athens, Greece



Cervix Cancer Education Symposium, January 2017, Mexico



- Tumor Size
- Desire for fertility preservation
- Neoadjuvant chemotherapy
- Sentinel lymph node

The Surgical Management of Cervical Cancer: An Overview and Literature Review

Dario R. Roque, MD,* Weiya Z. Wysham, MD,* and John T. Soper, MD†

*Clinical Fellow, †Professor, Division of Gynecologic Oncology, Department of Obstetrics and Gynecology, University of North Carolina, Chapel Hill, NC

TABLE 2
Ongoing Prospective Trials for Conservative Management of Low-Risk, Early-Stage Cervical Cancer

Trial Name (Investigator)	Inclusion Criteria	Intervention	Primary Outcome	Secondary Outcome
ConCerv ¹⁹ (Schmeler et al)	-Stage IA1 or IB1 -Tumor size ≤ 2 cm -SCC or grade 1–2 adenocarcinoma	CKC + PLN (fertility) or Hyst + PLN (nonfertility)	Safety and feasibility	-Treatment associated morbidity -Quality of life
SHAPE ²⁰ (Plante et al)	-Stage IA1 or IB1 -Tumor size < 2 cm -SCC or adenocarcinoma - < 10 mm stromal invasion on LEEP/cone - $< 50\%$ invasion on pelvic MRI	Radical hysterectomy + PLN or Hyst + PLN	Safety and survival	-Treatment related morbidity -Extrapelvic relapse free survival -Overall survival -Rate of parametria metastasis Surgical margin status -Pelvic node status -Quality of life
Gynecologic Oncology Group 278 ²¹ (Covers)	-Stage IA1 (LVSI ⁺) -Stage IA1 or IB1 -Tumor size ≤ 2 cm -SCC, adenocarcinoma, or adenosquamous - < 10 mm stromal invasion on LEEP/cone -No evidence of metastasis on CT or MRI	CKC + PLN (fertility) or Hyst + PLN (nonfertility)	-Bladder, bowel, and sexual function -Lymphedema	-Physical function and toxicity -Treatment-related adverse events -Relationships between functional outcomes, adverse events, cancer worry, surgical complications, and quality of life -Intention for conception -Fertility rate -Reproductive concerns for CKC + PLN group

SCC indicates squamous cell carcinoma; PLN, pelvic lymphadenectomy; hyst, simple hysterectomy; LEEP, loop electrosurgical excision procedure; LVSI⁺, positive LVSI.



- Minimally Invasive Procedures

Gynecologic Cancer InterGroup Cervix Cancer Research Network



TABLE 7
Comparative Studies of RRH, Laparoscopic Radical Hysterectomy (LRH) and Abdominal Radical Hysterectomy (ARH)

Study	Operative Time, Mean, min	EBL, Mean, mL	Hospital Stay, Mean, d	Intraoperative Complications, %	Postoperative Complications, %
Bogges et al ⁶⁰					
RRH	210.9	96.5	1	—	7.8
ARH	247.8	416.8	3.2	—	16.3
<i>P</i>	0.002	<0.0001	<0.0001	—	0.35
Magrina et al ⁶³					
RRH	189.6	133.1	1.7	0	25.9
ARH	166.8	443.6	3.6	6	17.1
LRH	220.4	208.4	2.4	3	16.1
<i>P</i>	<0.001	<0.001	<0.001	0.77	NS
Maggioni et al ⁶⁵					
RRH	272.3	78	3.7	5	—
ARH	199.6	221.8	5	12.5	—
<i>P</i>	<0.001	<0.001	<0.01	0.161	NS
Estape et al ⁶⁶					
RRH	144	130	2.6	3.1	18.8
ARH	114	621.4	4	0	28.6
LRH	132	209.4	2.3	11.8	23.5
<i>P</i>	NS,* 0.05†	0.09,* <0.0001†	NS,* 0.03†	NS	NS
Ko et al ⁶⁷					
RRH	290	81.9	1.7	0	18.7
ARH	219	665.6	4.9	3	21.9
<i>P</i>	0.002	<0.0001	<0.0001	0.999	0.999
Chong et al ⁶⁸					
RRH	230.1	54.9	9.6	0	14
LRH	211.2	201.9	8.7	8	26
<i>P</i>	0.025	<0.001	0.325	0.041	0.134
Tinelli et al ⁶⁹					
RRH	323	95	3	8.7	—
LRH	255	157	4	2.6	—
<i>P</i>	0.05	NS	NS	NR	—

**P* value for RRH vs LRH comparison.

†*P* value for RRH vs ARH comparison.

NS indicates not significant; NR, not recorded.

Gynecologic Cancer InterGroup Cervix Cancer Research Network



- Facilities
- Training
- Preferences
- COSTS!!!!

Cervix Cancer Education Symposium, January 2017, Mexico



- Locally Advanced Disease

Treating Locally Advanced Cervical Cancer With Concurrent Chemoradiation Without Brachytherapy in Low-resource Countries

Linus Chuang MD, Margaux J. Kanis MD,† Brigitte Miller, MD,‡ Jason Wright, MD,§
William Small, Jr, MD,|| and William Creasman, MD¶*

Cervix Cancer Education Symposium, January 2017, Mexico

Gynecologic Cancer InterGroup Cervix Cancer Research Network



TABLE 1. Impact of Existing Neoadjuvant Chemotherapy (NACT) Trials on Locally Advanced Cervical Cancer in Low-resource Setting

References	Protocol	Findings	Concerns	Relevance to Low-resource Setting
Buda et al ¹³	Phase III trial comparing NACT chemotherapy regimens	Complete response higher with the addition of ifosfamide to paclitaxel and cisplatin	Multiagent combination chemotherapy may be unsafe to deliver in low-resource settings	Low impact
Cochrane Review ^{14,18}	NACT plus surgery vs. surgery alone	Marginal improvement in OS favoring NACT plus surgery	Postoperative radiation is often used in the studies	Low impact
Sananes et al, ¹⁵ Matsumura et al ¹⁶	Adjuvant chemotherapy following NACT plus surgery	Results comparable with radiation therapy	Small studies	High impact
EORTC 55994, NCT00193739	NACT plus surgery vs. chemoradiation	Study ongoing	Results not available	High impact

Both the studies on adjuvant chemotherapy after NACT and surgery, and the prospective randomized trials comparing NACT and surgery to chemoradiation may be relevant in setting where radiation units are not available. The findings from these studies have potential high impact on the management of patients with locally advanced cervical cancers in low-resource setting.

Cervix Cancer Education Symposium, January 2017, Mexico

Gynecologic Cancer InterGroup Cervix Cancer Research Network



TABLE 3. Chemoradiation Without Brachytherapy Followed by RH or Extrafascial Hysterectomy Offered Similar Overall Survival

References	Stages	Protocols	Survivals
Cetina et al ³¹	IB2, IIA, IIB	EBRT-CT (cisplatin) followed by RH vs. EBRT followed by brachytherapy	OS: 78% vs. 78% (<i>P</i> =NS)
Cetina et al ³²	IB2, IIA, IIB	EBRT-CT (gemcitabine and cisplatin) followed by RH vs. EBRT followed by brachytherapy	OS: 76.3% vs. 74.5% (<i>P</i> =NS)
Ferrandina et al ³³	IB2-IVA	EBRT-CT followed by RH vs. radiation followed by type II vs. type III RH	OS: 77.4% (<i>P</i> =NS)
Landoni et al ^{34*}	IB-IIA	RH class II vs. III	OS: 81% vs. 77% (<i>P</i> =NS)
Keys et al ³⁶	IB2	EBRT plus extrafascial hysterectomy (unable to have brachytherapy) vs. EBRT plus brachytherapy	OS: 67% vs. 69% (<i>P</i> =NS)
Moreno et al ⁴²	IB2-IIB	EBRT-CT plus 20 Gy Arc boost followed by extrafascial hysterectomy	No survival data. Residual disease on hysterectomy specimen (50%)

*Landoni's study did not have a radiation therapy component.

EBRT-CT indicates external-beam radiation therapy-computed tomography; NS, not significant; OS, overall survival; RH, radical hysterectomy.

Cervix Cancer Education Symposium, January 2017, Mexico



Pretreatment Retroperitoneal Para-aortic Lymph Node Staging in Advanced Cervical Cancer

A Review

Roos Marthe Smits, MD, Petra L.M. Zusterzeel, MD, PhD, and Ruud L.M. Bekkers, MD, PhD

Cervix Cancer Education Symposium, January 2017, Mexico

Gynecologic Cancer InterGroup Cervix Cancer Research Network

TABLE 2. Histology of positive PALN after staging lymphadenectomy

First Author (Year)	N	FIGO	Total LNM, %	+PALN, %	Procedure	Level	Nodes (Range)	Isolated PALN, %	PALN With PLN, %
Heller (1990)	264	IIB-IVA	64 (24)	64 (24)	Dissection, biopsy	IMA		*	*
Goff (1999)	86	IB2-IVA	45 (52)	14 (16)	Dissection		22 (2-63)†	2 (14)	12 (86)
Rose (1999)	32	IIB-IVA	12 (38)	8 (25)	Dissection	≥IMA		1 (12)	7 (88)
Vidaurreta (1999)	84	IB2-IVA	49 (58)	11 (42)	Dissection	IMA		0 (0)	11 (100)
Narayan (2001)	27	IB2-IVA	10 (37)	5 (19)	Dissection (21), sampling (6)	LRV		2 (40)	3 (60)
Odunsi (2001)	51	IB2-III	30 (59)	9 (18)	Dissection		6 (1-13)		
Hertel (2002)	101	IB2-IVB	41 (41)	21 (21)	Dissection		10.4 (1-50)		
Lai (2002)	32	IIB-IIIB	11 (34)	8 (25)	Dissection	IMA			
Yeh (2002)	42	IB2-IVA	12 (29)	12 (29)	Dissection	≥IMA			
Lin (2003)	50	IB2-IVA	14 (28)	14 (28)	Dissection	≥IMA			
Chung (2005)	44	IB2-IIIB	25 (57)	5 (11)	Dissection	ROV	10.4 (3-31)	0 (0)	5 (100)
Leblanc (2007)	181	IB2-IVA	44 (24)	44 (24)	Dissection	LRV	20.8 (1-52)	*	*
Mortier (2007)	80	IB2-IIIB	10 (13)	10 (13)	Dissection	IMA	6 (1-16)	*	*
Yildirim (2007)	16	IIB-IIIB	4 (25)	4 (25)	Dissection	>AOB	17 (14-24)	*	*
Gil-Moreno (2011)	86	IB2-IVA	14 (16)	13 (15)	Dissection	LRV	15.5 (4-62)	9 (70)	4 (30)
Leblanc (2011)	125	IB2-IVA	21 (17)	14 (13)	Dissection	LRV	17 (4-46)		
Ramirez (2011)	60	IB2-IIIB	14 (23)	14 (23)	Dissection‡	LRV	11 (1-39)†	*	*
Uzan (2011)	96	IB2-IVA	8 (8)	8 (8)	Dissection	≥IMA	13 (4-39)	*	*
Fastrez (2013)	37	IB2-IVA	5 (14)	5 (14)	Dissection	LRV	27.5 (1.54)	*	*
Gouy (2013)	237	IB2-IVA	29 (12)	29 (12)	Dissection	LRV		*	*
Margulies (2013)	61	IB2-IVA		7 (11)	Dissection‡	LRV	13 (2-42)		
Del Pino (2013)	109	IB2-IIIB	35 (32)	23 (21)	Dissection (88), sampling (21)	LRV	10 (6-34)	*	*
Total	1901	IB2-IVB	497 (27)	342 (18)	Dissection		14.2 (1-62)	0%-70%	30%-100%

*No routine PLN dissection.

†PALN with PLN.

‡With ultrastaging.

AOB, Aortic bifurcation; LNM, lymph node metastasis; LRV, left renal vein; ROV, right ovarian vein.

Gynecologic Cancer InterGroup Cervix Cancer Research Network



- Recurrent Disease

Cervix Cancer Education Symposium, January 2017, Mexico

Curative Pelvic Exenteration For Recurrent Cervical Carcinoma in the Era of Concurrent Chemotherapy and Radiation Therapy. A Systematic Review



Hugo Sardain, MD, Vincent Lavoue, MD, PhD, Margaret Redpath, MD, Nicolas Bertheuil, MD, Fabrice Foucher, MD, Jean Levêque, MD, PhD

Objetivo :

Definir selección de px para EP en CaCu recurrente , El grado óptimo de la cirugía en términos de morbilidad y mortalidad.

Material y Metodos:

- Revisión de la literatura,
- Artículos publicados en los últimos 25 años:
- Exenteración pélvica,
- Cáncer cervical recurrente,
- Tratamiento del cáncer cervical,
- Radioterapia y cáncer de cuello uterino.

Curative Pelvic Exenteration For Recurrent Cervical Carcinoma in the Era of Concurrent Chemotherapy and Radiation Therapy. A Systematic Review

Hugo Sardain, MD, Vincent Lavoue, MD, PhD, Margaret Redpath, MD, Nicolas Bertheuil, MD, Fabrice Foucher, MD, Jean Levêque, MD, PhD

Descartar la presencia de mets.

- **CaCU recurrente a Distancia:**

Para-aórtica	81%
Supraclavicular	7%
Ganglios linfáticos pulmonares	21%

La cirugía curativa requiere

- Resección completa del tumor con márgenes quirúrgicos no involucrados y es un fuerte factor pronóstico de supervivencia postoperatoria.

1989

- 40% de EP fueron abortados IOp debido a una enfermedad no resecable.

Curative Pelvic Exenteration For Recurrent Cervical Carcinoma in the Era of Concurrent Chemotherapy and Radiation Therapy. A Systematic Review

Hugo Sardain, MD, Vincent Lavoue, MD, PhD, Margaret Redpath, MD, Nicolas Bertheuil, MD, Fabrice Foucher, MD, Jean Levêque, MD, PhD

- **Difícil comparar los resultados,**
 - Heterogeneidad respecto al tipo de procedimiento y el tipo de cáncer que se está investigando (cervical, endometrial, de ovario o vulvar).
- **Rara vez se centran únicamente en CaCU y aún más raramente en la recidiva.**
- No explican cómo o por qué se eligió un procedimiento dado.
- **Márgenes quirúrgicos negativos es un importante factor pronóstico, potencialmente modificable.**

AutorR	Complicaciones tempranas	Tipo	Complicaciones tardías	tipo	Muertes
<i>Berek</i>	NR	NR	NR	17 fitula gatrointetinal	3 (4%)
<i>Goldberg</i>	NR	NR	NR	NR	1 (0.9%)
<i>Maggioni</i>	48 (44.8%)	NR	52 (48,5%)	NR	0
<i>Benn</i>	27 (50%)	10 cardioresp, 6 ileo, 1 obstruction ureteral	33 (61%)	15 ileo, 11 ureteral, 15 hernias	0
<i>McLean</i>	NR	15 infections, 8 abscesses, 6 sepsis	NR	NR	1 (2%)
<i>Vergote</i>	21 (58%)	2 pelvic abscesses, 14 leaking stomas and sepsis	18 (50%)	5 pielonefritis 14 fistulas	1 (2%)
<i>Baiocch</i>	57 (53.3%)	13 fistulas, 17 pelvic infections	48 (44.8%)	8 fistulas, 9 occlusions, 16 Obstruction urinaria	13 (12%)
<i>Yoo</i>	10 (16 %)	4 skin infections, 1 ileus 5 fistulas, 3 wound dehiscences	22 (36%)	10 fistulas (7 enterocutanea, 2 rectovaginal, 1 Ureteroenteric)	0
<i>Schmidt</i>	143 (51%)	42 rectovaginal fistulas, 20 pelvic abscesses, 10 pulmonary emboli	NR	NR	14 (5%)
<i>Tanaka</i>	10 (83%)	5 ileus, 3 leaking gastrointestinal anastomoses	NR	NR	0
<i>Chiantera</i>	48 (21.3%)	23 sepsis, 15 cardiorespiratory, 39 wound dehiscences, 22 urinary, 28 gastrointestinal	NR	NR	7 (3%)



- Palliative Procedures
 - Ileal Conduit
 - Colostomy
 - Other diversions
 - Other Procedures

Gynecologic Cancer InterGroup Cervix Cancer Research Network



Is it still an Issue to
be explored?

Cervix Cancer Education Symposium, January 2017, Mexico