

ROBOTIC RADICAL HYSTERECTOMY (RRH) VERSUS CHEMO-RADIATION (CRT) FOLLOWED BY TYPE 1 ROBOTIC HYSTERECTOMY FOR 1B2 CERVICAL CANCER (CC)

Christine K. Fitzsimmons, DO; Amanda J. Stephens, DO; Jessica A. Kennard, DO; Madhavi Manyam, DO; Julie W. Pepe, PhD; Kayla M. DeCoff, BS; Sarfraz Ahmad, PhD; Nathalie D. McKenzie, MD; James E. Kendrick, MD; Robert W. Holloway, MD

Gynecologic Oncology Program, AdventHealth Cancer Institute, Orlando, FL 32804, USA

Abstract

Objectives: To compare perioperative outcomes, RFS, and OS for patients with FIGO 2014 stage 1B2 CC treated by RRH versus CRT and brachytherapy (BT) followed by Type 1 robotic hysterectomy (RH).

Methods: Patients with FIGO 2014 stage 1B2 CC (1/2007-12/2017) who underwent RRH (Group A) or CRT and VB followed by RH (Group B) were identified. Inclusion criteria included: adenocarcinoma or squamous cell histology; > 12 month follow-up, tumor size (TS) >4 cm by either pathology in A or radiographic / clinical criteria in B, and no evidence of para-aortic node metastasis on imaging.

Results: 15 group A (median TS=5.0±1.2 cm) and 31 group B (median TS=5.0±1.0 cm) patients were identified. Pre-operative imaging reported no positive nodes in A compared to 8 (25%) in B. 12 (80%) required postoperative adjuvant CRT in group A. Median follow up was 64±34.6 months for A versus 33±32.7 months for B ($p=0.059$). No (+)para-aortic nodes were identified in A versus 5 cases in B ($p=0.15$). Recurrences were diagnosed in 3 (20%) A and 7 (22.5%) B cases. Median time to recurrence was 15±49 months for A compared to 11±7 months in B. 5-year RFS and OS was 80% & 84.7% (A) versus 78% & 83.9% (B) [$p>0.05$]. Complications included major urinary fistula (n=3;20%) and cuff dehiscence (n=1;6.7%) in A versus one each for B (3.3%).

Conclusions: Despite having higher risk factors of para-aortic metastasis, patients with 1B2 CC treated with CRT/BT/RH had similar RFS/OS to RRH, and with less fistulae and cuff dehiscence.

Introduction

- Using the new FIGO 2018 guidelines, Stage 1B2 tumors may be treated with either:
 - Primary surgical treatment: RH / Pelvic / Para-aortic lymphadenectomy
 - Definitive CRT and BT
 - Can consider CRT / BT followed by adjuvant type 1 hysterectomy²
- A recent study by Landoni et al¹ showed that the 20 year survival was similar between upfront surgery versus definitive radiotherapy in Stage IB-IIA cervical cancers
- Adjuvant radiation following radical hysterectomy increases the risk of morbidity¹
- The RetroEMBRACE study for primary RT, included all locally advanced cervical cancer, reported an overall pelvic control of 91% [all stages]; and in stage IB (substages not reported) patients of 98% at 5-years⁴
- Previous CRT followed by open simple hysterectomy study by Bigsby et al (n=69) showed: 81% 5-year survival rate, 97% local control rate, 0% subsequent pelvic exenteration, and 4.3% vaginal stenosis.³

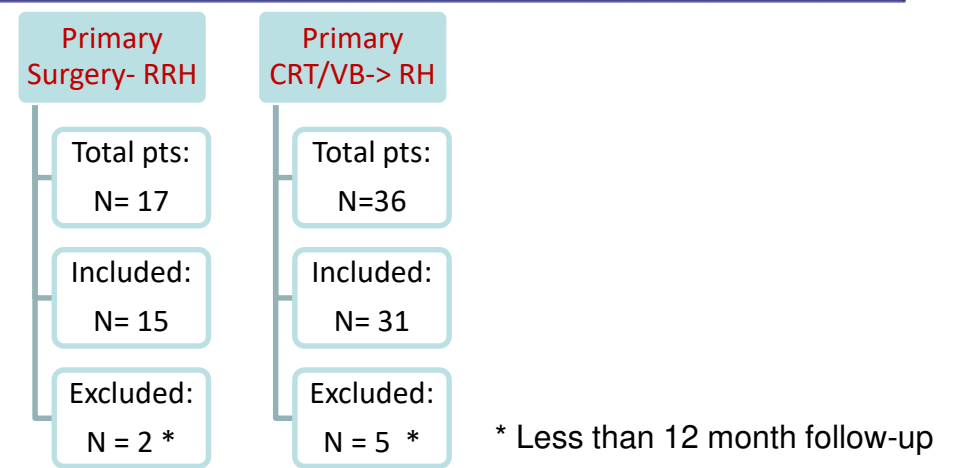
Objectives

- To evaluate the safety and efficacy of robotic assisted laparoscopic simple hysterectomy with para-aortic lymphadenectomy after chemoradiation and limited brachytherapy
- Compare surgical and oncologic outcomes between occult 1B2 patients following robotic radical hysterectomy and known 1B2 patients treated with chemoradiation/limited brachytherapy followed by robotic hysterectomy/staging para-aortic lymphadenectomy

Materials and Methods

- Patients with FIGO 2014 stage 1B2 CC (1/2007-12/2017) who underwent RRH (Group A) or CRT and VB followed by RH (Group B) were identified
- Inclusion criteria included:
 - Adenocarcinoma or Squamous cell histology
 - > 12 month follow-up
 - Tumor size (TS) > 4 cm by either pathology in Group A or radiographic / clinical criteria in Group B
 - No evidence of para-aortic node metastasis on imaging in groups A or B
 - Group B included positive pelvic nodes utilizing radiographic criteria pre-operatively

Results



Demographics and Results

	Group A (RRH), N=15	Group B (CRT/VB/RH), N=31	p-Value
Age	49 ± 14 years	47 ± 11 years	NS
BMI	26.7 ± 5.6	27.9 ± 6.6	NS
Pre-operative Radiologic Pelvic Nodes Positive	0% (N=0)	29% (N=9)	<0.001
Surgery Time	184 ± 53 minutes	128 ± 32 minutes	<0.001
Estimated Blood Loss	106 ± 78 cc	68 ± 42 cc	NS
Transfusion Rate	0% (N=0)	3.3% (N=1)	NS

Pathology

Characteristic	Group A (RRH), N= 15	Group B (CRT/VB/RH), N= 31	p-Value
TS (cm)	5±1.8	5±1.0	NS
LVSI	60% (N=9)	14% (N=4*) * Post CRT	<0.001
Adenocarcinoma	53% (N=8)	45% (N=14)	NS
(+) Pelvic Nodes	30% (N=3)	16% (N=5*)	NS
Para-aortic Nodes Sampled	26.6% (N=4)	100% (N=31)	NS
(+) Para-aortic Nodes	0	16% (N=5)	0.15
(+) Vaginal Margins	20% (N=3)	0	NS
(+) Parametria	14.3% (N=2)	22.5% (N=7)	NS

Recurrence, Survival, Complications Data

	Group A (RRH), N= 15	Group B (CRT/VB/RH), N= 31	P-Value
Recurrence Rate	20% (N=3)	22.5% (N=7)	NS
Distant Recurrence	33.3% (N =1)	71.4% (N =5)	NS
Median Time to Recurrence	15±49 months	11±7 months	NS
5-year DFS	80.0%	78%	NS
5-year OS	84.7%	83.9%	NS
Urinary Fistula Rate	6.7% (N=1)	3.3% (N=1)	NS
Cuff Dehiscence Rate	20% (N=3)	3.3% (N=1)	NS
Complication Rate	26.7 % (N=4)	3.3% (N=1)	0.017

Conclusions

- Despite a 16% rate of para-aortic metastasis and 29% radiographic positive pelvic nodes, patients with 1B2 CC treated with CRT/BT/RH had similar RFS / OS to RRH
- Overall operating time was less in CRT/BT/RH compared with RRH
- CRT/BT/RH overall had fewer complications (fistulae and cuff dehiscence) compared to primary RRH for 1B2 CC (FIGO 2014)
- No central failures occurred and no pelvic exenterations were performed

References

- Landoni F, Colombo A, Miliani R, et al. Randomized study between radical surgery and radiotherapy for the treatment of stage IB-IIA cervical cancer: 20-year update. *J. Gynecol. Oncol.* 2017; 28 (3); e34. doi: 10.3802/jgo.2017.28.e34.
- NCCN Guidelines: Cervical Cancer, 2019.
- Bigsby GE, Holloway RW, Ahmad S, et al. Chemoradiation with adjuvant hysterectomy for stage IB-2 cervical cancer: A 10 year experience. *Gynecol. Surg.* 2012; 9: 327-333.
- Sturdza A, Potter R, Fokdal LU, et al. Image guided brachytherapy in locally advanced cervical cancer: Improved pelvic control and survival in RetroEMBRACE: A multicenter cohort study. *Radiother. Oncol.* 2016; 120: 428-433.