

CONCURRENT CHEMO-RADIATION FOR THE TREATMENT OF PRIMARY VAGINAL CANCER

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Abstract:

Objective: To evaluate the role of concurrent chemo-radiotherapy in the curative treatment of primary vaginal cancer.

Methods: A retrospective chart review was performed on all primary vaginal cancer patients treated at the Ottawa Hospital Regional Cancer Centre with curative intent using concurrent chemotherapy and radiotherapy, between 1999 and 2004. Disease-free and overall survival rates were analyzed using the Kaplan-Meier method.

Results: Twelve patients were identified as being treated with curative intent using concurrent chemotherapy and radiation therapy. The median age at diagnosis was 56 years (range 34 – 69 years) and the median follow-up was 43 months (range 11 – 75 months). Ten (83%) were diagnosed with squamous cell carcinoma and 2 (17%) with adenocarcinoma. The distribution according to stage was as follows: 5 (42%) stage II, 5 (42%) stage III and 2 (16%) stage IVA. All patients received pelvic external beam radiotherapy concurrently with weekly intravenous cis-platinum chemotherapy followed by brachytherapy. The median dose of external beam radiotherapy was 4500cGy given in 25 fractions over 5 weeks. Ten patients received interstitial brachytherapy and 2 patients received intracavitary brachytherapy, with the median dose being 3000cGy. The weekly dose of the intravenous cis-platinum chemotherapy was 40mg/m². At the time of analysis, 3 patients had developed a recurrence and all three patients had died. The 5-year overall survival, disease-specific survival and loco-regional control rates were 73%, 80%, and 92%, respectively. Although acute grade 1 and 2 toxicities were noted among many of the patients, grade 3 toxicity requiring hospitalization and/or surgery occurred in only 2 patients (17%). None of the patients had a life threatening or fatal toxicity.

Conclusions: Chemo-radiotherapy is highly effective for the treatment of primary vaginal cancer patients and has an acceptable toxicity profile.

Background:

- Primary vaginal cancer is relatively rare (<2% of gynecologic malignancies)
- Optimal treatment is controversial but often radiotherapy is the main treatment modality utilized with locoregional disease control being the biggest concern
- Both external beam radiation and brachytherapy (interstitial or intracavitary) are considered important components of curative treatment
- The role of chemotherapy is not well defined with just one recently published study clearly documenting its use*

Purpose:

- To determine the efficacy of radiotherapy in combination with concurrent weekly cisplatin chemotherapy in the curative treatment of primary vaginal cancer
- To compare this approach with a historical cohort of patients treated with curative intent without the use of chemotherapy

Methods:

- A retrospective review was performed of all primary vaginal cancer patients treated with curative intent using chemo-radiation (radiotherapy consisting of external beam plus a brachytherapy boost with the addition of concurrent chemotherapy) since 1999
- We compared these patients to our previously published data* on 18 primary vaginal cancer patients treated with curative intent from 1989-2001 using radiotherapy alone (external beam + brachytherapy) without the addition of chemotherapy

Results:

- 12 primary vaginal cancer patients treated with chemo-radiation from 1999-2004
- Median age 56 years (range 34-69 years)
- Median follow-up 43 months (11-75 months)

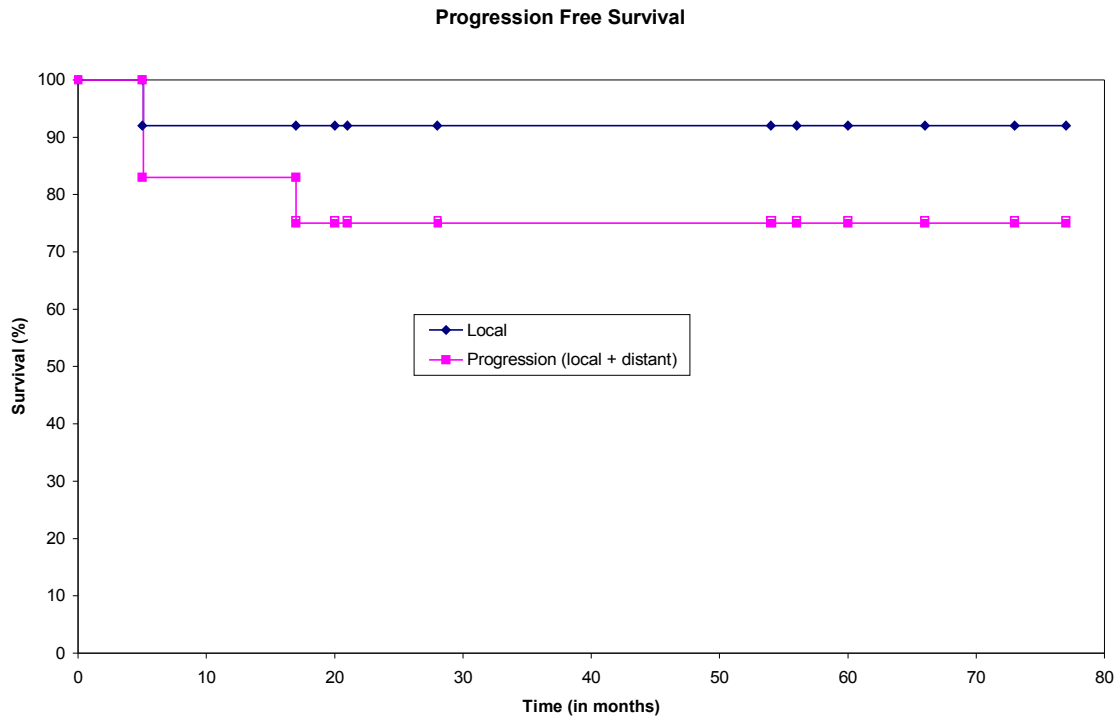
Tumor characteristics

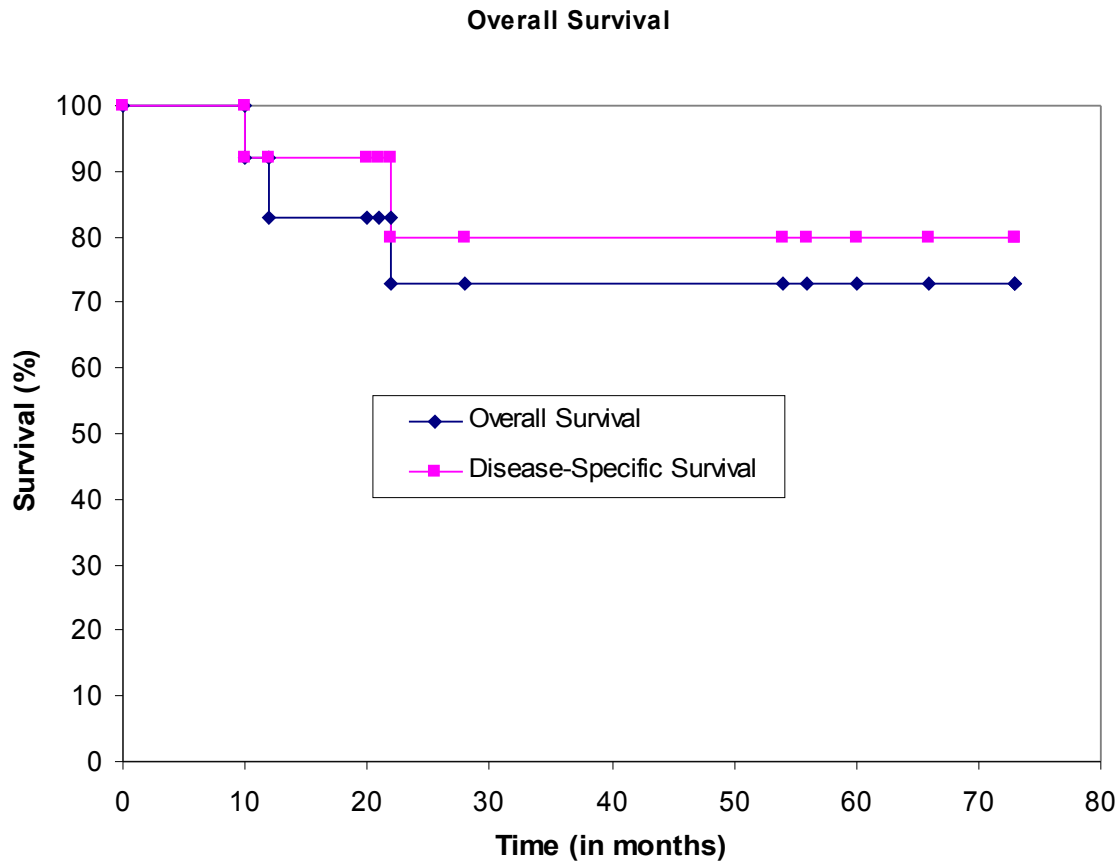
	Number	%
FIGO Stage		
II	6	50%
III	4	33%
IVa	2	17%
Lymph Node Involvement		
Yes	2	17%
No	10	83%
Histology		
Squamous cell carcinoma	10	83%
Adenocarcinoma	2	17%
Tumor Grade		
Grade 1	4	43%
Grade 2	4	43%
Grade 3	2	17%
Grade X	2	17%

Treatment Details

- External beam radiation
 - Median dose 4500cGy/25fr/5weeks
 - 4-field box arrangement with 18MV photons used most commonly
 - Primary tumor and pelvic lymph nodes encompassed
- Brachytherapy
 - 10 patients received interstitial implants (LDR brachytherapy)
 - 2 patients received intracavitary implants (HDR brachytherapy)
 - Median dose prescribed 3000cGy
- Chemotherapy
 - Weekly intravenous cis-platinum given during external beam radiation

○ Dose 40mg/m²





Recurrences

- 3 recurrences have occurred thus far
 - 1 locoregional relapse, 2 distant relapses
 - 1 stage II pt, 1 stage III pt, 1 stage IV patient
- 2 patients had lymph node involvement at diagnosis and 1 had grade 3 disease
- All recurrences occurred within 2 years of completing treatment

Toxicities

- Difficult to accurately assess retrospectively from charts
- However, 75% had at least moderate acute toxicity involving the bowels, bladder or skin/mucosa (based on descriptions given)

- No Grade 3 or 4 acute hematologic toxicity but 1 patient was switched from cis-platinum to 5-FU for the last week of chemotherapy due to an elevated creatinine
- 2 patients (17%) had late grade 3 toxicity requiring surgery and/or hospitalization
 - Both developed fistulae requiring surgery
- 4 patients (33%) significant vaginal scarring (but it was not necessarily symptomatic)
- No life-threatening or fatal toxicities were noted

Chemoradiation patients compared to radiotherapy only (previously published[♦]) patients

	5-year local control	5-year progression-free survival ¹	5-year Overall survival
Chemoradiation (n=12)	92%	75%	73%
Radiation only ² (n=18)	70%	59%	54%

¹Includes local and distant recurrences, ²FIGO stage distribution: I= 5, II=10, III= 2, IV=1

Discussion

- Local control with chemoradiation is excellent and appears better than most other series looking at either radiotherapy alone or surgery alone
- Overall survival and progression-free survival also compare very favorably with the published literature
- The improvement in local control appears to be the biggest reason for the better overall outcomes noted and are similar to those achieved in the one previously published study* assessing chemoradiation for the treatment of vaginal cancer
- The apparent magnitude of benefit noted by the addition of cis-platinum chemotherapy in our non-randomized comparison is very similar to that achieved by the addition of concurrent cis-platinum to radiation among cervix cancer patients
- The toxicity of chemoradiation appears acceptable
- Longer follow-up is still required to fully determine the role of chemoradiation in the treatment of vaginal cancer but the present findings are very promising

Conclusions

- Chemo-radiation is highly effective for the treatment of primary vaginal carcinoma and needs to be considered as a treatment option for patients being treated with curative intent
- Our preliminary results suggest that this treatment approach is more effective than radiotherapy alone and has an acceptable toxicity profile

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Acknowledgements

The authors wish to thank Ms. Johanna Spaans for her statistical analysis support and Ms. Betty McAndrew for her secretarial assistance.

References

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