

## RESEARCH ARTICLE

# Follow-Up Consultations for Cervical Cancer Patients in a Mexican Cancer Center. Comparison with NCCN Guidelines.

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### Abstract

**Purpose:** This study aimed to determine the patterns of follow-up visits for cervix cancer in a national cancer center in Mexico. **Materials and Methods:** The National Cancer Institute of Mexico is cancer center with 119 beds that mostly cares for an underserved and socially disadvantaged population. The medical records of cases of cervical cancer that had at least one year of clinical follow-up after being in complete response at the end of primary treatment were analyzed. We recorded the numbers of total and yearly follow-up visits and these were compared with the number of follow-up visits recommended by the National Comprehensive Cancer Network 2013, version 2 for cervical cancer. **Results:** Between March and June 2007, the medical records of 96 consecutive patients were reviewed. Twenty (21%) of these met inclusion criteria and were selected. In the first year the median number of visits was 11 (4-20). In the ensuing years, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup>, the number of analyzed patients remaining in follow-up decreased to 17, 14, 13 and 9 respectively. There were 462 follow-up visits to primary treating services (Gynecology Oncology, Radiation Oncology and Medical Oncology) as compared to 220 suggested by the NCCN guidelines ( $X^2$  test  $p < 0.0001$ ). There were 150 additional visits to other services. **Conclusions:** Our results suggest that in our institution there is an overuse of oncological services by cervical cancer patients once treatment is completed.

**Keywords:** Cervix cancer - follow-up - medical visit - overuse

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### Introduction

The number of people living with and beyond cancer is increasing worldwide. Survival rates have improved substantially over recent decades. For example, in the United States five-year survival rate was 49% for all cancers combined in the seventies and increased to 67% by the year 2007. Accordingly, it has been estimated that 13.7 million Americans with a history of cancer were alive on year 2012 and the number will increase to nearly 18 million by the year 2022 (Siegel et al., 2012).

Historically, the major focus of cancer follow-up has been the detection of cancer recurrence; however, cancer survivors can face a number of issues as a result of the cancer itself and cancer treatments such as significant physical, psychosocial, spiritual and existential effects. Among these issues are loss of income, work or school underperformance and change in roles. Cancer-related events can be transient (hair loss, nausea, fatigue, etc), or permanent (e.g., infertility). Some can be "late" effects (e.g., cardiomyopathy or the development of a second cancer (Ness et al., 2013). Importantly, many survivors feel anxious about leaving the "safety" of the cancer care system when they transit from end of treatment to long-term follow-up (Jefford et al, 2008) and fear of cancer

recurrence.

Cervical cancer is the third most commonly diagnosed cancer and the fourth leading cause of cancer death in female population worldwide, accounting for 9% (529,800) of the total new cancer cases and 8% (275,100) of the total cancer deaths among females in 2008. More than 85% of these cases and deaths occur in developing countries (Jemal et al., 2011). Even in developing countries mortality rates for cervical cancer are declining due to earlier detection (Mathew and George., 2009) thought the better results of concurrent chemoradiation with cisplatin and the gemcitabine cisplatin combination in early-stage high-risk and locally advanced disease should not be underestimated (Hu et al., 2012; Hashemi et al., 2013).

In addition, financial burden associated with surveillance consultations, particularly for socially disadvantaged women should not be underestimated (Suprasert and Manopunya 2011). Finally, uncertainty about the future is a common issue for both survivors and caregivers (Tan et al., 2012; Yip et al., 2012).

These facts point on the need to target for studying the increasing number of cervical cancer survivors on both aspects, the classical which is the early detection of recurrences with the hope to increase survival but also

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the yet mostly underexplored physical, psychosocial, spiritual and existential effects cervical cancer survivors experience (Schultz et al., 2004; Clemmens et al., 2008). As an initial aim, this study was performed to determine the patterns of follow-up visits in a national cancer center as a start-point for future studies.

## Materials and Methods

The National Cancer Institute of Mexico is a third-level cancer center that has 119 beds, mostly care for underserved and socially disadvantaged population. In the year 2011 the Institution attended 4954 new patients and provided 179,196 subsequent or follow-up consultations. Overall, cervical cancer is second only to breast cancer as the most frequent cancer type seen at this Institution.

**Study design.** The medical records of cases with histologically confirmed cervical cancer (squamous, adenocarcinoma or adenosquamous) who were seen for the first time and treated between March and June 2007 were analyzed. Additional inclusion criteria were: FIGO stages IB1-IVA; to had received radical hysterectomy with or without adjuvant radiation or chemoradiation (IB1) or standard cisplatin-based pelvic chemoradiation as primary treatment (IB2-IVA). Selected cases had to have at least one year of clinical follow-up after being in complete response at the end of primary treatment. We excluded cases with FIGO stages IA1, IA2 and IVB, those with no complete response, and those treated within academic or industry-sponsored clinical trials. The study was approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

For each case included in this study the following variables were recorded: age at diagnosis, FIGO stage, date of starting treatment, type of treatment, starting date of the clinical follow-up visits, number of follow-up in the first, second, third, fourth and fifth year. A follow-up

or subsequent visit was defined as that aimed to identify progression or recurrence. The departments providing the follow-up visits were also registered (gynecological oncology, medical oncology and radiation oncology), in addition, we recorded the number of additional visits provided by other services (internal medicine, psychooncology, pain clinic, dental services, nutrition, etc.). The monitoring was discontinued at the time of recurrence, death from any cause as well as at the diagnosis of a second primary malignancy other than squamous or basal cell carcinoma of the skin.

Results on the number of total and each year follow-up visits were compared with the number of follow-up visits recommended for monitoring surveillance according to the guidelines established by the National Comprehensive Cancer Network 2013, version 2 for cervical cancer (NCCN 2013). According to these guidelines, the NCCN-2013 suggests to track every 3-6 months for the first two years, every 6-12 months between the third and fifth year and then once annually. For statistical analysis we used descriptive methods and non-parametric tests.

## Results

Between March and June 2007, the medical records 96 consecutive patients were reviewed and 20 (21%) of these met inclusion criteria and were selected. The characteristics of these patients were as follows: Median age was 55 (28-74), most were IIB and IIIB, most had squamous histology and all but three were treated with chemoradiation.

Table 1 shows that 20 patients were analyzed for the first year and then the number remaining in follow-up decreased to 17, 14, 13 and 9 patients at the second, third, fourth and fifth year respectively (causes for being eliminated are shown in table 1). Table 2 shows the total number of visits in the primary treating oncology services by year, and that most follow-up consultations were provided by gynecology oncology followed by radiation oncology and medical oncology respectively. Table 3 shows the total number of visits (and recommended visit number by the NCCN guidelines) including 150 non-oncology consultations (pain clinic [31 visits (20.6%) for

**Table 1. Number of Medical Visits in Follow-Up for Cervical Carcinoma**

Follow-up	No. of patients	Mean of visits	Standard deviation	Median of visits	Range	Guidelines NCCN-2013
1 <sup>st</sup> year	20	11.5	3.7	11.5	4-20	2-4
2 <sup>nd</sup> year	17	6.2	2.7	6	3-13	2-4
3 <sup>rd</sup> year	14	4	1.8	3.5	2-8	1-2
4 <sup>th</sup> year	13	3.3	1	3	1-2	1-2
5 <sup>th</sup> year	9	2.7	1.4	3	1-5	1-2

\*In the second year 2 patients recurred and 1 had a second primary. In the third year, 2 were lost-of-folow-up and 1 recurred. At year 4th, 1 had recurrence and at year 5 two were lost-of-follow-up and 2 recurred

**Table 2. Number of Follow-Up Visits by Primary Treating Service**

Service	1 <sup>st</sup> year n 230 (%)	2 <sup>nd</sup> year n 106 (%)	3 <sup>rd</sup> year n 57 (%)	4 <sup>th</sup> year n 44 (%)	5 <sup>th</sup> year n 25 (%)
Gynecology Oncology	143 (62)	79 (74.5)	43 (75.4)	39 (88.6)	20 (80)
Radiation Oncology	71 (30.8)	22 (20.7)	7 (12.2)	3 (6.8)	3 (12)
Medical Oncology	16 (6.9)	5 (4.7)	7 (12.2)	2 (4.5)	2 (8.0)

**Table 3. Number of Follow-Up Visits by Department. Comparison with the Recommendations of the NCCN-2013**

	1 <sup>st</sup> year N= 20 pts	2 <sup>nd</sup> year N= 17 pts	3 <sup>rd</sup> year N= 14 pts	4 <sup>th</sup> year N= 13 pts	5 <sup>th</sup> year N= 9 pts	Total of visits
Primary treating service (GO, RO, MO)	230	106	57	44	25	462
Other services	54	38	26	14	18	150
Total	284	144	83	58	43	612
NCCN guidelines (100%)	40-80	34-68	14-28	13-26	9-18	110-220
% of visits above NCCN	575-287	311-155	407-203	338-169	277-168	420-210

\*Primary treating service. GO: Gynecology Oncology, RO: Radiation Oncology, MO: Medical Oncology

2 patients], emergency [19 (12.6%) in 8 cases], nutrition [9 (6%) in 3 cases], internal medicine [5 (3.3%)] and others, as well as visits to other oncological services (soft tissue cancer clinic [29 visits (19.3%) in 3 patients due to second primary neoplasm], gastrointestinal oncology [14 (9.3%) in 5 cases due to proctitis related to radiation], genitourinary oncology 10 (6.6%) in 1 patient to treat cystitis secondary to radiation], hematology, head and neck cancer clinic and breast cancer clinic). Of note, most were required for treatment-related complications. Overall, 24.5% (150 out of 612) of visits were provided by services other than the primarily treating service (gynecology oncology, radiation oncology and medical oncology). The difference between the observed and expected number of follow-up consultations 462 (only the primary treating services) versus 220 suggested by the NCCN guidelines was statistically significant ( $X^2$  test  $p < 0.0001$ ).

## Discussion

Worldwide cancer care delivery systems face unprecedented pressure as a result of increased demand for services in an environment of limited resources and investment. Higher survival rates as a consequence of improved treatments stand as contributing factor for such an increase of cancer care demand (Aziz, 2007). In cervical cancer, the use of adjuvant chemoradiation for surgically-treated early stage cervical cancer patients as well as primary chemoradiation for locally advanced disease have increased the 5-year survival rates (Hu et al., 2012; Hashemi et al., 2013) thus, it is likely more patients are in need of post-treatment surveillance. The results of this retrospective review of cancer follow-up visits in a cancer center underscore that the number of visits far exceeds that recommended by the NCCN guidelines.

Our results may suggest that in our Institution there is an overuse of oncological services for cervical cancer patients once treatment is completed. Just taken into account the visits provided by the primary treating services (gynecology oncology, radiation oncology and medical oncology) it exceeds more than 1-fold the number recommended by the NCCN guidelines (462 versus 220). In this regard, should follow-up be done just by the oncological gynecologist, the number would be reduced to 322, still more than 220 visits. It is also noticeable that a high proportion (24%) of visits was scheduled to diagnose and treat treatment-related events and few ones to second tumors. In this regard, as in other countries there are no established guidelines barriers for promoting second primary tumor screening to cancer survivors.

There is a paucity on information about the optimal follow-up strategy for cervical cancer patients after treatment. In a systematic review of literature comprising 17 retrospective studies, visits number per patient ranged from 9 to 28 over 5 a year period (Elit et al., 2009), still inferior to our report. It was not the objective of our study to determine the diagnostic procedures employed however, in our institution each visit includes a physical examination with bimanual pelvic exam and cervical or vaginal vault cytology plus chest X-ray as most studies

recommend. In this regard, there is modest low quality evidence to inform the most appropriate follow-up strategy for patients with cervical cancer who are clinically disease free after receiving primary treatment. Most authors recommend however, at least a complete physical examination and pelvic exam (Morice et al., 2004; Elit et al., 2009; Mabuchi et al., 2012).

The overuse of oncological services in our Institution for cervical cancer patients in comparison to most studies in literature are of concern, as it is in general for cancer follow-up (Han et al., 2013). This may result just from the force of habit and/or a false sense of security from both physicians and patients. In either case it seems important to address this problem in order to optimize the constrained oncological resources. An alternative explanation to our findings could be that consultations provided are quite short and focussed on detection of recurrence as other studies show (Beaver and Luker., 2005) hence, few opportunities could be available for patients and doctors to meet supportive care needs in such a consultation. As a consequence patients are derived to other services. Other poorly studied phenomenon observed here is the high rate of consultations (mainly emergency and palliative/pain clinic) to solve treatment-related complains.

Our results stress on the need for further studies not only to set the optimal number of follow-up visits and follow-up laboratory and radiological tests but also to assure that cervical patients in follow-up have all their psychological and or supportive care needs covered in a single visit in either the tertiary or a primary center (Suprasert and Manopunya 2011). Thus, developing principles for improved care of those living with and beyond cancer could save costs for the institution and cover the expectatives of patients.

## References

- Aziz NM (2007). Cancer survivorship research: state of knowledge, challenges and opportunities. *Acta Oncol*, **46**, 417-42.
- Beaver K, Luker KA (2005). Follow-up in breast cancer clinics: reassuring for patients rather than detecting recurrence. *Psychooncology*, **14**, 94-101.
- Clemmens DA, Knafl K, Lev EL, McCorkle R (2008). Cervical cancer: patterns of long-term survival. *Oncol Nurs Forum*, **35**, 897-903.
- Elit L, Fyles AW, Devries MC, Oliver TK, Fung-Kee-Fung M, Gynecology cancer disease site group (2009). Follow-up for women after treatment for cervical cancer: a systematic review. *Gynecol Oncol*, **114**, 528-35.
- Han PK, Klabunde CN, Noone AM, et al (2013). Physicians' beliefs about breast cancer surveillance testing are consistent with test overuse. *Med Care*, **51**, 315-23.
- Hashemi FA, Akbari EH, Kalaghchi B, Esmati E (2013). Concurrent chemoradiation with weekly gemcitabine and cisplatin for locally advanced cervical cancer. *Asian Pac J Cancer Prev*, **14**, 5385-9.
- Hu Y, Cai ZQ, Su XY (2012). Concurrent weekly cisplatin versus triweekly cisplatin with radiotherapy in the treatment of cervical cancer: a meta-analysis result. *Asian Pac J Cancer Prev*, **13**, 4301-4.
- Jefford M, Karahalios E, Pollard A, et al (2008). Survivorship issues following treatment completion-results from focus groups with Australian cancer survivors and health

- professionals. *J Cancer Surviv*, **2**, 20-32.
- Jemal A, Bray F, Center MM, et al (2011). Global cancer statistics. *CA Cancer J Clin*, **61**, 69-90.
- Mabuchi S, Isohashi F, Maruoka S, et al (2012). Post-treatment follow-up procedures in cervical cancer patients previously treated with radiotherapy. *Arch Gynecol Obstet*, **286**, 179-85.
- Mathew A, George PS (2009). Trends in incidence and mortality rates of squamous cell carcinoma and adenocarcinoma of cervix--worldwide. *Asian Pac J Cancer Prev*, **10**, 645-50.
- Morice P, Deyrolle C, Rey A, et al (2004). Value of routine follow-up procedures for patients with stage I/II cervical cancer treated with combined surgery-radiation therapy. *Ann Oncol*, **15**, 218-23.
- National Comprehensive Cancer Network. Cancer Cervix, version 2 (2013). [http://www.nccn.org/professionals/physician\\_gls/pdf/cervical.pdf](http://www.nccn.org/professionals/physician_gls/pdf/cervical.pdf). Accessed 17 Jul 2013.
- Ness S, Kokal J, Fee-Schroeder K, et al (2013). Concerns across the survivorship trajectory: results from a survey of cancer survivors. *Oncol Nurs Forum*, **40**, 35-42.
- Schultz PN, Stava C, Beck ML, Vassilopoulou-Sellin R (2004). Ethnic/racial influences on the physiologic health of cancer survivors. *Cancer*, **100**, 156-64.
- Siegel R, DeSantis C, Virgo K, et al (2012). Cancer treatment and survivorship statistics, 2012. *CA Cancer J Clin*, **62**, 220-41.
- Suprasert P, Manopunya M (2011). Financial burden of gynecologic-cancer survivors associated with attendance in a surveillance program at a tertiary care hospital in Thailand. *Asian Pac J Cancer Prev*, **12**, 1761-3.
- Tan FL, Loh SY, Su TT, Veloo VW, Ng LL (2012). Return to work in multi-ethnic breast cancer survivors--a qualitative inquiry. *Asian Pac J Cancer Prev*, **13**, 5791-7.
- Yip CH, Samiei M, Cazap E, et al (2012). ICC-4 Working Group. Coordinating care and treatment for cancer patients. *Asian Pac J Cancer Prev*, **13**, 23-36.