Follow-Up Consultations by Cervical Cancer Patients in Mexico - Comparison with NCCN Guidelines

Alberto Serrano-Olvera¹, Lucely Cetina¹, Jaime Coronel¹, Alfonso Duenas-Gonzalez²*

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, 2nd, 3rd, 4th and 5th, 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
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 have 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 visits deviation of visits NCCN-2013 guidelines.

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

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

*In the second year 2 patients recurred and 1 had a second primary. In the third year, 2 were lost-of-follow-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

<table>
<thead>
<tr>
<th>Service</th>
<th>1st year</th>
<th>2nd year</th>
<th>3rd year</th>
<th>4th year</th>
<th>5th year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gynecology Oncology</td>
<td>143 (62)</td>
<td>79 (74.5)</td>
<td>43 (75.4)</td>
<td>39 (88.6)</td>
<td>20 (80)</td>
</tr>
<tr>
<td>Radiation Oncology</td>
<td>71 (30.8)</td>
<td>22 (20.7)</td>
<td>7 (12.2)</td>
<td>3 (6.8)</td>
<td>3 (12)</td>
</tr>
<tr>
<td>Medical Oncology</td>
<td>16 (6.9)</td>
<td>5 (4.7)</td>
<td>7 (12.2)</td>
<td>2 (4.5)</td>
<td>2 (8.0)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Department</th>
<th>1st year</th>
<th>2nd year</th>
<th>3rd year</th>
<th>4th year</th>
<th>5th year</th>
<th>Total of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary treating service</td>
<td>230</td>
<td>106</td>
<td>57</td>
<td>44</td>
<td>25</td>
<td>462</td>
</tr>
<tr>
<td>Other services</td>
<td>54</td>
<td>38</td>
<td>26</td>
<td>14</td>
<td>18</td>
<td>150</td>
</tr>
<tr>
<td>Total</td>
<td>284</td>
<td>144</td>
<td>83</td>
<td>58</td>
<td>43</td>
<td>612</td>
</tr>
</tbody>
</table>

*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 (X² 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 complaints.

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 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**


