Time to Surgery and the Risk of Cancer Progression in Patients With Gynaecologic Cancers of the Lower Genital Tract

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Abstract

Objective: There is little current evidence to define an appropriate surgical wait time in patients with cancer. The aim of this study was to examine whether increased time to surgery in patients with early-stage lower genital tract cancers resulted in a risk of cancer progression.

Methods: We conducted a population-based retrospective cohort study of women presenting with stage I squamous cell carcinoma of the cervix, vulva, and vagina and undergoing surgical treatment in Calgary, Alberta between 2000 and 2010. Cancer stage and disease characteristics were compared at two time points: the time of initial presentation to the gynaecologic oncology service and the time of surgery.

Results: One hundred fifty-six patients met the inclusion criteria. There was progression of cancer stage in 10 cases (6.4%). In keeping with the current wait time targets, time to surgery was categorized as ≤ 28 days (59 patients; 38%) and > 28 days (97 patients; 62%). Progression occurred in seven of the 123 cases of cervical cancer (9%). In all seven cases, time to surgery was > 28 days ($P = 0.095$). None of the three cases of vaginal cancer had disease progression. Progression occurred in three (10%) of the 30 cases of vulvar cancer. In two of these three cases, time to surgery was > 28 days ($P = 0.586$). The relative risk for disease progression with prolonged time to surgery for all women in the cohort was 5.5 (95% CI 0.7 to 42.1) ($P = 0.091$).

Conclusion: In patients with early squamous cell carcinoma of the lower genital tract, increased time to surgery (> 28 days) is not associated with cancer progression.

Key Words: Cancer of the vagina, cancer of the uterine cervix, cancer of the vulva, disease progression, surgery

Competing Interests: None declared.

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Résumé

Objectif : Nous ne disposons que de peu de données probantes contemporaines pour définir ce qui constitue un délai approprié avant la tenue d'une chirurgie chez des patientes atteintes d'un cancer. Cette étude avait pour but d'examiner si la prolongation du délai avant la tenue d'une chirurgie donne lieu, chez des patientes qui présentent des cancers de stade précoce affectant les voies génitales inférieures, à un risque d'évolution du cancer.

Méthodes : Nous avons mené une étude de cohorte rétrospective en population générale auprès de femmes qui présentaient un carcinome malpighien de stade I affectant le col utérin, la vulve et le vagin, et qui subissaient un traitement chirurgical à Calgary, en Alberta, entre 2000 et 2010. Le stade du cancer et les caractéristiques de la maladie ont été comparées à deux moments distincts : au cours de la consultation initiale auprès du service de gynéco-oncologie et au moment de la chirurgie.

Résultats : Cent cinquante-six patientes ont répondu aux critères d'admissibilité. Une évolution du stade du cancer a été constatée dans 10 cas (6,4 %). Conformément aux cibles actuelles en matière de temps d'attente, le délai avant la tenue d'une chirurgie a été classé comme étant ≤ 28 jours (59 patientes; 38 %) et > 28 jours (97 patientes; 62 %). Une évolution s'est manifestée dans sept des 123 cas de cancer du col utérin (9 %). Dans chacun de ces sept cas, le délai avant la tenue d'une chirurgie avait été > 28 jours (P = 0,095). Aucun des trois cas de cancer du vagin n'a connu une évolution de la maladie. Une évolution s'est manifestée dans trois (10 %) des 30 cas de cancer de la vulve. Dans deux de ces trois cas, le délai avant la tenue d'une chirurgie avait été > 28 jours (P = 0,586). Pour toutes les femmes de la cohorte, le risque relatif d'évolution de la maladie attribuable à la prolongation du délai avant la tenue d'une chirurgie était de 5,5 (IC à 95 %, 0,7 - 42,1) (P = 0,091).

Conclusion : Chez les patientes qui présentent un carcinome malpighien de stade précoce affectant les voies génitales inférieures, la prolongation du délai avant la tenue d'une chirurgie (> 28 jours) n'est pas associée à une évolution du cancer.

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INTRODUCTION

Lower genital tract cancers (cervical, vulvar, and vaginal) are an important cause of morbidity and mortality in women. In Canada, cervical cancer ranks as the 12th most commonly diagnosed cancer in women. Current estimates indicate that every year 1419 Canadian women develop cervical cancer, and 544 die from the disease. Cancers of the vulva and vagina are less common, representing 3% to 5% and 2% of gynaecologic cancers, respectively.[1] Most lower genital tract cancers (80% to 90%) are squamous cell carcinomas.[2] Human papillomavirus is now a well-established cause of these cancers.[1–3]

In general, progression of precancerous lesions of the female lower genital tract is known to be slow.[3–5] A significant amount of research has been undertaken to examine the natural history of persistent infections by oncogenic HPV types and the risk of progression of precancerous lesions to invasive cancer.[3–7] However, there is limited information available about the potential for progression of more advanced cancerous lesions.

Patients presenting with early-stage lower genital tract cancer typically undergo primary surgical treatment. The standard of care for cervical cancer is surgical conization, simple hysterectomy, radical trachelectomy, or radical hysterectomy. For vulvar cancer, it is wide local excision or radical vulvectomy; and for vaginal cancer, it is wide local excision or radical vaginectomy. Each of these may include lymph node dissection.[8–11] Timely delivery of treatment is paramount in providing high quality care for patients with cancer. If the cancer progresses during surgical wait time, both cure rates and treatment options may be affected, ultimately influencing prognosis. Currently, there are no well-established benchmarks for appropriate surgical wait times in the field of obstetrics and gynaecology. In 2006, Cancer Care Ontario developed recommendations regarding target wait times for cancer surgery in Ontario.[12] The consensus expert opinion, from all surgical oncology specialties, in this report was that the majority of cancer cases should be treated within 28 days.[12] Unfortunately, there is little high quality evidence on which to base this recommendation, although this consensus opinion has been recognized elsewhere in Canada. The Society of Obstetricians and Gynaecologists of Canada has recommended that the guidelines developed by Cancer Care Ontario be adopted across Canada.[13] In Calgary, Alberta, the current goal is to have patients with gynaecologic cancers face a surgical wait time of less than 28 days, in accordance with these recommendations.

It is important that we generate evidence to support the definition of appropriate surgical wait times. We do not have a clear definition of a "safe" time frame during which a patient can wait for treatment without having a risk of disease progression and an effect on prognosis. The aim of this study therefore was to investigate the risk of progression of early-stage squamous cell cancers of the female lower genital tract during the time waiting for surgery.

METHODS

We performed a population-based retrospective cohort study to examine the risk of cancer progression in all patients with early squamous cell carcinoma of the lower genital tract treated surgically in Calgary, Alberta, over a 10-year period.

The study population consisted of all women with stage I biopsy-proven squamous cell carcinoma of the vulva, vagina, or cervix who presented to the gynaecologic oncology service at the Tom Baker Cancer Centre in Calgary between January 1, 2000, and December 31, 2010. All patients in this population were referred for initial evaluation by the gynaecologic oncology service following a diagnosis of lower genital tract cancer by a primary care provider (family physician or nurse practitioner, dermatologist, or general gynaecologist).

Patients undergoing primary surgical treatment in Calgary following initial evaluation by the gynaecologic oncology service were included in the study population. Any patients undergoing neoadjuvant or primary chemotherapy, radiation therapy, or preoperative laser ablation were excluded.

Data were obtained through a review of health records. All patients meeting inclusion criteria were identified through the Alberta Cancer Registry. Data were then extracted from the electronic medical records. The following patient characteristics were collected: age, ethnicity, parity, smoking status, weight, height, BMI, and presence or absence of immunosuppressive condition (e.g., HIV/AIDS, chronic corticosteroid use). The date of initial contact with the gynaecologic oncology service in Calgary, date of first contact with a referring practitioner (family physician, nurse practitioner, dermatologist, or general gynaecologist), date of colposcopic evaluation, and the date of referral to the gynaecologic oncology service were recorded as initial assessment points. The date of surgical treatment was recorded, allowing for an assessment of time to surgery. Time to surgery was defined as the elapsed time in days between initial contact with the gynaecologic oncology service and the date of surgery.