A Mixed-Methods Cohort Study to Determine Perceived Patient Benefit in Providing Custom Breast Prostheses

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KEY WORDS
Mastectomy, custom breast prosthesis, mixed methodology, cancer rehabilitation, quality of life


E-JOURNAL LINKED ABSTRACT
Background: Of all mastectomy patients, 90% will use an external prosthesis where the standard of care uses a stock prosthesis that is purchased “off the shelf.” Our objectives were to determine patient demand for and perceived value of a custom breast prosthesis. The information obtained will influence future research and program direction.

Methods: We asked 65 women who had undergone lumpectomy or mastectomy to participate before exploring rehabilitation options. The quantitative outcome measures were the European Organisation for Research and Treatment of Cancer QLQ-C30 general and -BR23 breast cancer–specific quality of life questionnaires, and the Ambulatory Oncology Patients Satisfaction Tool. The QLQ results were analyzed using the Mann–Whitney U-test. Results of the satisfaction tool were compared using the Fisher exact and chi-square tests. A descriptive qualitative approach—involving in-depth interviews exploring the experiences of the women—was used to establish the perceived value of the services to the patients. The analysis of the interview transcripts was conducted using a standardized content method to describe the experiences of the women.

Results: All the women had had previous experiences with a conventional prosthesis, and they reported that wearing a custom prosthesis was more satisfying for them. They reported comfort and ease in wearing it, coupled with a sense of feeling less like a victim. Comparison of the QLQ and patient satisfaction scores showed no significant difference between the women wearing the conventional prosthesis and those wearing the custom prosthesis.

Conclusions: The willingness of women to pay for a prosthesis and the qualitative results from the present study demonstrate that there is demand for a custom approach to treatment. However, if a mixed-methods approach had not been applied during this initial exploration of women’s experiences with custom breast prostheses, the essence of the perceived value of the custom prosthesis would have been lost. Quantitative measures suggest that there is no difference between custom and conventional breast prostheses, but the qualitative data captured in the study provide a sense of aspects of care that a standardized outcome measure cannot capture. Further research with a larger sample size is needed to determine if real differences from a quantitative perspective are possible. Suggestions for improvements in the device and in program operations were gathered and will influence the future development and implementation of a breast prosthesis service, but financial assistance will most likely be needed to make such a service universally accessible.

EGFR Tyrosine Kinase Mutation Testing in the Treatment of Non-Small-Cell Lung Cancer

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KEY WORDS
Non-small-cell lung cancer, epidermal growth factor receptor, genetic testing, gefitinib, erlotinib

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Background: Non-small-cell lung cancer (NSCLC) tumours with activating mutations of the epidermal growth factor receptor (EGFR) tyrosine kinase are highly sensitized to the effects of oral tyrosine kinase inhibitors such as gefitinib and erlotinib, suggesting the possibility of targeted treatment of NSCLC based on EGFR mutation status. However, no standardized method exists for assessing the EGFR mutation status in tumours. Also, it is not known if available methods are feasible for routine screening. To address that question, we conducted a validation study of methods used at molecular laboratories in five specialized Canadian cancer centres for detecting EGFR mutations in exons 19 and 21.

Methods: The screening methods were first optimized using cell lines harbouring the mutations in question. A validation phase using anonymized patient samples followed.

Results: The methods used at the sites were highly specific and sensitive in detecting both mutations in cell-line DNA (specificity of 100% and sensitivity of at least 1% across all centres). In the validation phase, we observed excellent concordance between the laboratories for detecting mutations in the patient samples. Concordant results were obtained in 26 of 30 samples (approximately 87%). In general, the samples for which results were discordant were also less optimal, containing small amounts of tumour.

Conclusions: Our results suggest that currently available methods are capable of reliably detecting exon 19 and exon 21 mutations of EGFR in tumour samples (provided that sufficient tumour material is available) and that routine screening for those mutations is feasible in clinical practice.

Phase II Trial of a Metronomic Schedule of Docetaxel and Capecitabine with Concurrent Celecoxib in Patients with Prior Anthracycline Exposure for Metastatic Breast Cancer

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KEY WORDS
Metastatic breast cancer, metronomic chemotherapy, docetaxel, capecitabine


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Background: Preclinical studies using tumour models have shown that the therapeutic index of chemotherapeutic drugs can be increased if these drugs are administered more frequently at minimally toxic doses. This approach, called “metronomic dosing,” appears to achieve anticancer activity by targeting dividing endothelial cells participating in tumour angiogenesis. A phase II trial was conducted to determine whether this effect could be reproduced in patients with advanced breast cancer and with prior exposure to an anthracycline. Participants were given low once-daily doses of capecitabine and weekly infusions of docetaxel in uninterrupted fashion while on study. These agents were chosen because experimental evidence has indicated that concurrent administration can produce therapeutic synergy. In addition, in an effort to improve outcome measures, patients received daily oral celecoxib because this cyclo-oxygenase-2 inhibitor may also possess antiangiogenic activity.

Methods: Patients received weekly docetaxel at a starting dose of 15 mg/m², once-daily oral capecitabine 1250 mg/m², and twice-daily oral celecoxib 200 mg. Treatment was given continuously until disease progression or unacceptable toxicity. In the absence of neutropenia, the docetaxel dose was escalated after 4 and 8 weeks of therapy to a maximum of 25 mg/m². The primary endpoint was clinical benefit (percentage of patients experiencing either an objective response according to the Response Evaluation Criteria in Solid Tumors or achieving disease stabilization for 6 months or more). Secondary endpoints included time to disease progression, overall survival, and toxicity. The level of thymidine phosphorylase expression in the peripheral white blood cells of patients was measured before and during treatment to determine the effect of therapy on this capecitabine-activating enzyme.

Results: The study enrolled 47 patients, among whom 38 (81%) completed treatment to a disease assessment endpoint. No complete responses were achieved, but 13 patients (34%) experienced a partial response, and an additional 3 (8%) experienced stable disease for at least 6 months. The clinical benefit rate was therefore 42% (95% confidence interval: 27% to 57%). The median time to disease progression for all evaluable patients was 3.6 months (range: 0.9 to 21.7 months). The most common non-hematologic toxicities were diarrhea, plantar–palmar erythrodysesthesia, fatigue, mucositis, and vomiting.

Conclusions: The present study demonstrates that metronomic docetaxel–capecitabine chemotherapy
with daily celecoxib can produce significant anticancer activity, with predictable toxicity. Efficacy fell short of expectations, because outcome measures were similar to those obtained when the same agents are given in conventional dosing. Moreover, there is mounting evidence to indicate that a low dose of taxanes fails to induce thymidine phosphorylase expression, an effect believed to be important in achieving therapeutic synergism when taxanes are given concurrently with capecitabine.

Characterizing Distress, the 6th Vital Sign, in an Oncology Pain Clinic

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KEY WORDS
Screening for distress, pain, fatigue, common problems, oncology, neoplasms


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Conclusions: Compared with a matched group of patients who did not attend a symptom control clinic, clinic patients showed higher levels of multiple concurrent symptoms and psychosocial problems. We recommend that, rather than take an approach to symptom management that targets each symptom individually, co-occurring symptoms should be identified so that patients can be provided with additional multidisciplinary resources in a timely and efficient manner. The results of the present study attest to the legitimacy of calls for ambulatory cancer programs to more effectively integrate and coordinate services from initial diagnosis through to survivorship or palliation; to include comprehensive patient assessment and an interdisciplinary approach as the standard of care in all clinics; and to conduct more research into how symptoms and other issues faced by patients and their families tend to evolve during the course of an illness.

What Is the Optimal Management of Dysphagia in Metastatic Esophageal Cancer?


KEY WORDS
Esophageal cancer, palliation, stents, radiation therapy


E-JOURNAL LINKED ABSTRACT
Background: The palliation of dysphagia in metastatic esophageal cancer remains a challenge, and the optimal approach for this difficult clinical scenario is not clear. We therefore sought to define and determine the efficacy of various treatment options used at our institution for this condition by examining the potential advantages of a combined-modality treatment over those of stenting or radiotherapy alone.
Methods: We reviewed a prospective database for all patients managed in an esophageal cancer referral centre over a 5-year period. All patients receiving palliation of malignant dysphagia were reviewed for demographics, palliative treatment modalities, complications, and dysphagia scores (0 = none to 4 = complete). The Wilcoxon signed rank test was used to determine significance ($p < 0.05$).

Results: During 2004–2009, 63 patients with inoperable esophageal cancer were treated for palliation of dysphagia. The primary treatment was radiotherapy in 79% (brachytherapy, $n = 18$; external-beam, $n = 10$; both types, $n = 22$) and stenting in 21% ($n = 13$). Mean wait time from diagnosis to treatment was 22 days in the stent group and 54 days in the radiotherapy group ($p = 0.003$). Mean duration of treatment was 1 day in the stent group and 40 days in the radiotherapy group ($p = 0.001$). In patients treated initially by stenting, dysphagia improved within 2 weeks of treatment in 85% of patients (dysphagia score of 0 or 1). However, 20% of patients presented with recurrence of dysphagia at 10 weeks of treatment. In the radiotherapy group, the onset of palliation was slower, with only 50% of patients palliated at 2 weeks (dysphagia score of 0 or 1). However, long-term palliation was more satisfactory, with 90% of patients remaining palliated after 10 weeks of treatment.

Conclusions: Dysphagia from inoperable esophageal cancer is a common and complex management problem, and there is no consensus on the ideal treatment approach. In inoperable esophageal cancer at our centre, radiation treatment provided durable long-term relief, but came with the disadvantage of a long wait time for initiation of treatment and a prolonged lag time between initiation of treatment and relief of symptoms. On the other hand, endoluminal stenting provided more rapid and effective early relief from symptoms, but was affected by recurrence of dysphagia in the long term. Further investigations—including randomized controlled trials exploring the toxicity and effectiveness of multimodality treatments with combinations of stenting, radiotherapy, and chemotherapy—are required to address those unresolved issues and the management of this complex clinical scenario.