



# What Are Patients' Expectations about the Effects of Chemotherapy for Advanced Cancer?

Timothy M Pawlik, MD, FACS, Karen M Devon, MD, Clay Anthony Fields, MD, Daniel B Hinshaw, MD, for Members of the Evidence-Based Reviews in Surgery Group

The term *evidence-based medicine* was first coined by Sackett and colleagues<sup>1</sup> as “the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients.” The key to practicing evidence-based medicine is applying the best current knowledge to decisions in individual patients. Medical knowledge is continually and rapidly expanding, and it is impossible for an individual clinician to read all the medical literature. For clinicians to practice evidence-based medicine, they must have the skills to read and interpret the medical literature so that they can determine the validity, reliability, credibility, and utility of individual articles. These skills are known as critical appraisal skills. Generally, critical appraisal requires that the clinician have some knowledge of biostatistics, clinical epidemiology, decision analysis, and economics as well as clinical knowledge.

The Canadian Association of General Surgeons (CAGS) and the American College of Surgeons (ACS) jointly sponsor a program titled “Evidence-Based Reviews in Surgery” (EBRS). The primary objective of this initiative is to help practicing surgeons improve their critical appraisal skills. During the academic year, 8 clinical articles are chosen for review and discussion. They are selected not only for their clinical relevance to general surgeons, but also because they cover a spectrum of issues important to surgeons; for example, causation or risk factors for disease, natural history or prognosis of disease, how to quantify disease (measurement issues), diagnostic

tests and the diagnosis of disease, and the effectiveness of treatment. Both methodologic and clinical reviews of the article are performed by experts in the relevant areas and posted on the EBRS website. As well, a listserv discussion is held where participants can discuss the monthly article. Fellows and candidates of the College can access Evidence-Based Reviews in Surgery through the American College of Surgeons website ([www.facs.org/education/ebrs.html](http://www.facs.org/education/ebrs.html)). All journal articles and reviews are available electronically through the website. Currently we have a library of more than 100 articles and reviews, which can be accessed at any time.

Beginning in October, a new set of articles will be available each month until May. Surgeons who participate in the current (modules) packages can receive CME credits by completing a series of multiple choice questions. For further information about EBRS the reader is directed to the ACS website or should email the administrator, Marg McKenzie at [mmckenzie@mtsinai.on.ca](mailto:mmckenzie@mtsinai.on.ca).

In addition to making the reviews available through the ACS and CAGS websites, 4 of the reviews are published in condensed versions in the *Canadian Journal of Surgery*, 4 in the *Journal of the American College of Surgeons*, and 4 in *Diseases of Colon and Rectum* each year.

## REFERENCE

1. Evidence-Based Medicine Working Group. Evidence-based medicine. *JAMA* 1992;268:2420–2425.

## SELECTED ARTICLE

### Patients' expectations about effects of chemotherapy for advanced cancer

Weeks JC, Catalano PJ, Cronin A, et al. *N Engl J Med* 2012;367:1616–1625.

**Objective:** To characterize the reported expectations of patients with colorectal cancer or metastatic lung cancer about the effectiveness of chemotherapy (and of the likelihood of cure).

**Design:** Cohort study

**Patient Sample:** The study included 1,193 patients who were alive 4 months after a newly diagnosed stage IV colorectal or lung cancer and received chemotherapy.

**Methods:** Patients or caregivers were surveyed by professional interviewers about their personal characteristics, decision making, experience of care, and outcomes. Further data were obtained from a comprehensive review of medical records.

**Results:** Sixty-nine percent of patients with lung cancer and 81% of those with colorectal cancer did not report understanding that chemotherapy was not at all likely to cure their cancer. In multivariable logistic regression, the risk of reporting inaccurate beliefs about chemotherapy was higher among patients with colorectal cancer, as compared with those with lung cancer (odds ratio [OR], 1.75; 95% CI 1.29 to 2.37); among nonwhite and Hispanic patients, as compared with non-Hispanic and white patients (OR for Hispanic patients, 2.82; 95% CI, 1.51 to 5.27; OR for black patients, 2.93; 95% CI, 1.80 to 4.78); and among patients who rated their communication with their physician very favorably, as compared with less favorably (OR for highest third vs lowest third, 1.90; 95% CI, 1.33 to 2.72). Education level, functional status, and the patient's role in decision making were not associated with inaccurate beliefs about chemotherapy.

**Conclusions:** Many patients receiving chemotherapy for incurable cancers may not understand that chemotherapy is unlikely to be curative, which could compromise their ability to make informed treatment decisions that are consonant with their preferences. Physicians may be able to improve patients' understanding, but this may come at the cost of patients' satisfaction with their physicians.

**Commentary:** One of the most important discussions between a cancer patient and a health care provider involves prognosis, as well as outlining therapeutic goals for any planned treatment strategy. Information on prognosis is critical to patients and family in helping to frame life-choices and make rational decisions regarding treatment. The calculus of deciding whether to accept any treatment requires careful balancing of potential risks against possible benefits. Specifically, an accurate understanding of the goals of care is critical in helping patients decide whether to proceed with a proposed therapy or not. Although providers may or may not believe that they are providing clear, accurate, and detailed information on prognosis, the article by Weeks and colleagues<sup>1</sup> presents provocative data indicating that many patients may not understand the goals of therapy (palliation/unlikely curative vs curative). In fact, Weeks and colleagues noted an incredible 69% of patients with stage IV lung cancer and 81% of those with stage IV colorectal cancer did not report understanding that chemotherapy was not at all likely to cure their cancer. The reasons for these findings are undoubtedly multifactorial and complex.

As Michael Bennet and Dawn Alison note in their paper, "Discussing the diagnosis and prognosis with cancer

patients,"<sup>2</sup> the task of the care provider is to give patients accurate prognostic information in a manner that facilitates care and compassion, yet also understanding of the clinical and existential situation. As Bennet and Alison note, Calman<sup>3</sup> suggested that there often exists a significant gap between a person's hopes and expectations and that of the realities of the situation. In turn, how a patient assimilates bad news may be proportional to the distance between the patient's perception of the situation and reality.<sup>4</sup> The larger the gap, the more difficult it can be for the provider to help the patient make the transition from his or her perception of the situation (cure) to the reality of the situation (noncurative). The discussion to facilitate this transition can be difficult, complicated, and lengthy. In fact, there are data to suggest that there is variability among providers regarding how prognosis is communicated.

Daugherty and Hlubocky<sup>5</sup> noted, in a survey of US medical oncologists, that although 98% said their usual practice was to tell terminally ill patients that they will die, 48% specifically described communicating terminal prognoses to patients only when specific preferences for prognosis information were expressed. In turn, patients who either actively or subtly signal that information regarding the terminal nature of their prognosis is not desired may be spared this information by a provider. To this point, it is interesting to note that Weeks and associates<sup>1</sup> found that misunderstanding the goals of chemotherapy was higher among patients who rated their communication with their physician very favorably. Physicians who present a more optimistic view of the treatment option in this context may be participating in some type of unconscious collusion between desperate patients and compassionate physicians who want to help by avoiding "hurtful" news.

The implications of the Weeks and colleagues<sup>1</sup> study seemingly take on even greater import in the burgeoning era of targeted chemotherapeutic agents. The data from Weeks and coworkers are particularly troublesome in light of the thought-provoking article, "Are we making too much of too little or are we achieving too little by giving too much?" reported by Fojo and Parkinson.<sup>6</sup> Fojo and Parkinson described how the development and approval of biologically targeted chemotherapeutic agents have entered general clinical practice, despite marginal clinical benefits being observed in broad patient populations, notwithstanding biological rationale for the use of these classes of molecules. In turn, all too frequently, the marginal general benefits of new therapeutic agents are at the expense of toxicity to those recipients who gain no benefit or may even be harmed by treatment. In addition, the data from the Weeks and associates<sup>1</sup> article have direct relevance to surgical decision making

for patients with advanced cancer. Patients with cancers may not understand the potential benefit of different surgical options. Specifically, patients with cancers that have a particularly poor prognosis (eg, pancreatic cancer, etc) may not recognize the likelihood that surgical therapy will or will not be curative. In addition, symptomatic patients with advanced incurable cancer may misunderstand the therapeutic goals of an operation (eg, palliative vs curative intent). All of this occurs in the context of enormous financial expense to the health care system and often, the individual patient.

Based on the work of Weeks and coauthors,<sup>1</sup> more than two-thirds of patients with advanced incurable cancer may fail to understand whether the goal of therapy is cure or palliation. As patients with incurable cancer continue to search for options, we may see a misguided overuse of and demand for treatment that is disassociated with a patient's wish to be "cured," which in turn, could have untoward financial and clinical effects for both society and individual patients.

Undoubtedly, the use of chemotherapy (cytotoxic, immunologic, or biologic) to treat patients with advanced cancer is warranted in many circumstances, even when cure is not achievable. Treatment of incurable patients may provide prolongation of life, as well as palliative relief of cancer-associated symptoms. The uncoupling of the therapy from its intended "end" or "therapeutic goal," however, is problematic. When understanding of the underlying therapeutic rationale is lost, therapy cannot be tailored and focused to serve the realistic needs and aims of the patient. Rather than a false sense of hope in a therapy that can never achieve a curative goal, providers need to assist patients in finding realistic hope in treating terminal disease. Hope that patients will receive care and treatment to help prolong their lives, while maintaining the quality of their lives. Hope that their general wellbeing will be cared for and that they will be provided treatment to avoid suffering and enrich their remaining life. The data from Weeks and colleagues<sup>1</sup> suggest that providers and patients need to begin to find this hope in a better understanding of the purpose of chemotherapy for advanced cancer. Only through a deeper understanding of realistic goals of care will patients and providers together be able to make more informed treatment decisions, identify patient preferences, and address not only incurable disease, but perhaps more importantly, be able to embrace all the challenges involved with such a diagnosis.

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