Potential Overdiagnosis of Basal Cell Carcinoma in Older Patients With Limited Life Expectancy

Eleni Linos, MD, MPH, DrPH
Department of Dermatology, University of California, San Francisco.

Steven A. Schroeder, MD
Department of Medicine, University of California, San Francisco.

Mary-Margaret Chren, MD
Department of Dermatology, University of California, San Francisco; and Dermatology Service, San Francisco Veterans Affairs Medical Center, San Francisco, California.

More patients are diagnosed with basal cell carcinoma (BCC) in the United States each year than all other cancers combined—more than 2.5 million BCCs compared with 1.7 million other cancers.1–3 Most of these BCCs occur in people aged 65 years and older, and each year, more than 100,000 BCCs are treated in persons who ultimately die within 1 year. Procedures to remove skin cancers have doubled in the last 15 years, and the use of Mohs surgery, histologically guided serial excision, increased by 400% between 1995 and 2009.4 Many clinicians have suggested that this is an epidemic of skin cancer attributed to excessive sun exposure, a thinning ozone layer, and indoor tanning. These numbers will likely increase further; as the number of older adults doubles between 2010 and 2030, overall cancer incidence is projected to increase 45%.5

These enormous numbers notwithstanding, BCCs grow slowly, and treated BCCs seldom metastasize and are rarely life threatening.2 In fact, even as the number of diagnosed BCCs has more than doubled in the last 20 years, deaths from this specific cancer are very low. Nonmelanoma skin cancer mortality is estimated at less than 1 in 1000 cases, but these deaths are overwhelmingly from squamous cell carcinoma, not BCC.3 Patients who are diagnosed with BCC during their last year of life will almost certainly die of causes unrelated to these lesions. In this Viewpoint, we suggest a new approach for the care of asymptomatic BCCs in patients with limited life expectancy—especially those in the last year of life.

Symptomatic vs Screening-Detected BCCs

Some BCCs develop with symptoms that are bothersome to patients. As these skin lesions enlarge, they can ulcerate, threaten vital structures such as eyelids or ears, and cause physical symptoms including itching, pain, or bleeding in approximately 12% of patients. When experiencing irritating symptoms or visible tumors, patients often see their physician. For these patients, dermatologists are invaluable for providing accurate diagnosis and treatment of these tumors. Many BCCs, however, are not noticed by patients, but instead are detected by clinicians during screening examinations. Whether or when these cancers would ultimately cause symptoms if left untreated is not known.

Harms of Diagnosing an Asymptomatic BCC

Elderly patients are more likely to be diagnosed with BCCs, but are also at highest risk for inadvertent harms associated with diagnosis and treatment. Harms include anxiety associated with a cancer diagnosis, fear of metastasis or recurrence (even though this is unlikely), or adverse effects from treatment. Frail elderly patients with other comorbidities are more likely to struggle with skin cancer treatments such as long procedures, difficulty with wound care and dressing changes, or poor wound healing. Patient-reported problems are common in the months following treatment, especially among older patients with multiple comorbidities.6 For example, when asked “Did you experience a complication following treatment?” more than a quarter (236/866) of patients in a prospective cohort of skin cancer patients responded affirmatively.6 Thus, any potential harms of treatment are immediate. Yet treatment patterns are the same, regardless of patient symptoms or life expectancy.7

Benefits of Diagnosing and Treating an Asymptomatic BCC

The reason for treating asymptomatic BCCs is because some may grow to cause symptoms or require more extensive surgeries later. Although BCCs are considered slow-growing tumors, it is unclear how slowly a typical BCC grows. Will it be decades, years, or months before a tumor causes problems? No data are available to answer this question. What is known is that some patients with small BCCs report they have had them for years. In addition, most dermatologists would agree with the original observation by Jacob in 1824, “...the slowness with which this disease proceeds is very remarkable.”

It is also clear that incompletely treated BCCs do not always cause harm; in a study of 121 biopsy-confirmed BCCs that were incompletely excised but followed up clinically with no further treatment, the majority (93%) had not grown or recurred after 5 years.8 This finding suggests that typical BCCs are likely indolent tumors and implies that many patients with BCC who are at the end of life may die of unrelated causes before the BCC grows to cause any problems. This subset of patients would be unlikely to benefit from diagnosis or treatment of asymptomatic BCCs, yet may incur harms of treatment.

Possible Overdiagnosis of Asymptomatic BCCs

Overdiagnosis refers to recognition of an asymptomatic disease that will not progress to symptoms or death during a patient’s remaining lifetime. Overdiagnosis was first described in prostate cancer for which it is now clear that early detection of low-grade tumors through screening does not always provide benefit and, conversely, might cause harm. Although it may be impossible to recognize overdiagnosis for an individual patient, rapid increases in diagnoses,
opinion by death rates that are unchanged, often suggest overdagnosis. BCC data from high-quality studies follow this pattern, suggesting overdagnosis.

**Unanswered Questions**

Although it is possible that BCCs are overdiagnosed at the end of life, many questions remain unanswered. How rapidly do untreated BCCs grow and how rapidly do asymptomatic BCCs become symptomatic? Is there a window of time during which it would be safe to monitor patients clinically (ie, watchful waiting or active surveillance) and intervene only if necessary? How should clinicians minimize the risk of missing a more dangerous tumor (eg, the rare but dangerous amelanotic melanoma or Merkel cell carcinoma)? What is the best way to communicate this uncertainty and involve patients and their families in treatment decisions? Would practice guidelines that incorporate patient life expectancy in BCC treatment decisions improve care? Would reverting to the older term of basal cell epithelioma allow both an accurate diagnosis and less harm from patient anxiety than the term basal cell carcinoma?

**A Call for More Patient-Centered Care**

The Institute of Medicine recently called for changes in the delivery of cancer care, highlighting patient-centered communication and shared decision making as its top priority. Given the uncertainty about the natural history of BCCs and their typically indolent nature, patients with BCC will likely vary in their preferences about whether to have biopsies or treatments. In particular, to help sicker patients and their families make informed decisions about slow-growing skin lesions, more evidence and guidelines that incorporate the risks and benefits of diagnosing, referring, and treating these lesions are needed.

The current treatment approach, which aims to remove every cancer cell, does not prioritize shared decision making or improving overall patient well-being. While accumulating evidence about the natural history and clinical course of BCC, physicians should question strategies that diagnose and treat all of these lesions, regardless of patient prognosis and input. Instead, the focus should be on individualizing the approach to patients at the end of life who have skin lesions that may be BCCs. Clinicians need to take a step back from the microscope and look at the patient.

**REFERENCES**


