

ADVANCES IN ONCOLOGY

Current Developments in the Management of Solid Tumor Malignancies

Smoking Cessation After a Cancer Diagnosis



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H&O Which types of cancer are most strongly linked to smoking?

DB Twelve types of cancers are firmly linked to tobacco smoking, according to the 2014 US Surgeon General's report: lung cancer, laryngeal cancer, esophageal cancer, pancreatic cancer, kidney cancer, bladder cancer, cervical cancer, oral and pharyngeal cancer, stomach cancer, colorectal cancer, uterine cancer, and acute myeloid leukemia. In fact, 30% of all cancer deaths are caused by smoking—it goes far beyond lung cancer.

This is not surprising because someone who smokes cigarettes is inhaling 7000 compounds, of which 69 have been proven to cause cancer. These toxins travel from the lungs into the bloodstream, where they are pumped throughout the body. As a result, every organ system in the body is bathed in those toxins.

H&O What are the benefits of stopping smoking for somebody who has been diagnosed with a solid tumor?

DB Quitting smoking after a diagnosis has many benefits. Of course, smoking is so carcinogenic that people benefit whenever they quit. But people who have been diagnosed with cancer have specific reasons to quit right away.

The 2014 Surgeon General's report found suggestive evidence of a link between smoking and an increased risk of cancer recurrence, poor treatment response, and increased treatment-related toxicity. Recurrence and treatment response are affected because smoking can impact the metabolism of chemotherapy and targeted therapy. Quitting before surgery is beneficial because

smoking is associated with increased rates of postoperative complications and mortality, impaired wound healing, increased infection rates, more pulmonary complications, longer postoperative hospital stays, and a higher postoperative mortality rate. Smoking also increases the risk of radiation therapy–associated complications. For instance, patients can have more dry mouth and skin reactions.

A study by Peppone and colleagues found that patients who smoked during cancer treatment were significantly more likely than nonsmokers to experience common treatment-related symptoms, including fatigue, hair loss, problems with memory, nausea, depression, trouble sleeping, pain, difficulty concentrating, hot flashes, weight loss, skin problems, and difficulty breathing. The study also found that patients who quit smoking before treatment reported symptom levels similar to those of nonsmokers.

H&O How motivated are patients to quit smoking after a cancer diagnosis?

DB Every patient responds differently. A cancer diagnosis can definitely be a teachable moment, and sometimes family members also become motivated to quit at this time. But other people will think it is a poor time to quit because they are so overwhelmed and stressed by the diagnosis. Smoking is a coping mechanism that most of these people have used all their adult lives. Approximately 90% of smokers begin before the age of 18 years, so they have not developed alternative mechanisms for dealing with stress. That is why working with a trained professional can be so important—we are able to help patients identify new coping mechanisms.

H&O What is the approach your program takes to helping people quit smoking?

DB We use tobacco treatment specialists to suggest medications and provide counseling, both of which are done one-on-one with the patient. We like sitting down with

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patients in person, but because some of our patients are traveling quite a distance to the center, we have the option of combining face-to-face meetings with phone interventions. We generally make the time to see patients when they are already visiting the center for another reason, whether that be a visit with their oncologist or a follow-up imaging scan.

H&O How do you decide on the best approach to quitting for a particular patient?

DB We make that decision in conjunction with the patient. We begin with a thorough assessment of previous attempts to quit, including any medications used. We want to know everything about their tobacco history, from when they started smoking to what brand of cigarettes they smoke or what other tobacco products they use. If the patient received counseling, what worked? What did not work? We learn a lot in that initial interview. For example, if a person who smoked 2 packs of cigarettes a day says that nicotine patches did not work, but the dose was only 14 mg, that means the medication was not dosed properly. Another common problem we see is using a nicotine lozenge or gum improperly. Sometimes we find that the person was drinking coffee at the same time they used the lozenge, which is ineffective because acidic food and drink neutralize the effect of the gum and lozenge. We put a lot of emphasis on determining the optimal type of medication, correct medication dose, and proper medication use.

After we learn about the patient's history with quitting, we ask about their daily lifestyle to get a sense of what medications would be most appropriate for them. For example, someone who is very busy during the day and does not have the time to pop a lozenge in their mouth at regular intervals might be better off with a 21-mg patch that provides a 24-hour sustained dose of nicotine. We

can then suggest that the patient use something to augment the nicotine patch to deal with breakthrough cravings, such as the lozenge or even the nicotine inhaler.

H&O What are the specific FDA-approved medications that are used to help people quit smoking?

DB There are 7 medications on the market today that are approved by the US Food and Drug Administration (FDA). The most common forms are the over-the-counter ones that contain nicotine—the patch, the gum, and the lozenge. Any of those can be purchased from a standard pharmacy. The 2 prescription aids that contain nicotine are the inhaler and the nasal spray. Although fewer people are familiar with the inhaler and the spray because they are prescription, they work very similarly to the other nicotine replacement products.

In addition to the nicotine products, 2 prescription medications are available that do not contain nicotine: varenicline (Chantix, Pfizer) and bupropion, which is also marketed as a treatment for depression. Both of these are very safe and effective. Varenicline received a lot of negative media attention because it was linked to aggression and suicidal thoughts and behaviors, but the EAGLES study (Study Evaluating the Safety and Efficacy of Varenicline and Bupropion for Smoking Cessation in Subjects With and Without a History of Psychiatric Disorders) established that patients were no more likely to experience neuropsychiatric symptoms with varenicline or bupropion than with the nicotine patch or a placebo, and varenicline was the most effective at helping people quit smoking.

H&O What types of counseling strategies are used?

DB We typically use cognitive behavioral therapy. For the cognitive part, we help people to think differently about smoking and what it does or does not do for them. For the behavioral part, we help people understand how they can separate the behavior of smoking from their day-to-day activities. We also work to increase the patient's motivation to quit.

H&O How effective are smoking cessation programs?

DB The success rate for people trying to quit on their own is approximately 1% to 3%. The success rate improves to approximately 10% to 15% for people who get some assistance, whether that be medication, calling a quit line for counseling, or using a phone app. But when patients receive both counseling and medication, quit rates rise to

approximately 35%. That is why it is so beneficial to have people available who are trained in tobacco treatment interventions, especially in the cancer care setting.

H&O Are e-cigarettes considered less dangerous than traditional cigarettes?

DB Electronic cigarettes, or e-cigarettes, which are also known as vaping devices, are tobacco products that deliver nicotine. At this time we do not have enough evidence to know whether e-cigarettes are less dangerous than standard cigarettes. They hit the market in 2007, and we do not expect to see the full effects until at least 20 years after that. So we still have a long way to go.

We do know that vaping liquids contain many of the same chemicals and other components that are present in standard cigarettes. They also contain other agents that carry their own risks. For example, vaping liquids usually contain propylene glycol, vegetable glycerin, or both. The FDA considers both of these agents safe for oral ingestion. But when these agents are heated, their chemical structure can change. Another difference is that the agents are being inhaled rather than ingested. What happens when you heat and inhale these agents, especially with long-term use? We do not know at this point. Another big concern when it comes to vaping liquids is the flavorings. Workers who manufacture certain food flavorings have developed chronic lung diseases, and such workers are now required to wear respirators. If vaping flavors are able to damage the lung tissue of workers, they have the potential to cause even more damage in people who heat and then inhale the product intentionally.

Some people have touted e-cigarettes as a way to quit smoking, but these are not FDA-approved quitting aids. I would not recommend that people take up vaping or that smokers switch to vaping, especially in light of the significant number of deaths that have been reported in recent months.

H&O Where should doctors refer their patients who want to quit smoking?

DB The United States has a national portal to the state quit lines, which is 1-800-QUIT-NOW. In addition, the National Cancer Institute has a free app at www.smoke-free.gov.

We are also seeing more tobacco treatment specialists in health care systems. In fact, accredited training programs for tobacco treatment specialists are now offered in 22 states. Indiana does not have one of these programs, so I attended one at the University of Massachusetts that enabled me to train other people. So now we are able to offer this training here in Indiana a couple of times a year.

H&O Is there anything you would like to add?

DB First, the vaping industry has resisted being regulated as a smoking cessation aid, yet they are marketing themselves that way—which is false advertising, according to the FDA. Second, the vaping industry has a huge overlap with the tobacco industry. In many cases, tobacco companies are the ones to invest in the manufacture and sale of vaping products. Third, the marketing of vaping products is straight from the playbook of Big Tobacco. Just as Camel used Joe Camel, a cartoon character who became nearly as recognizable to young kids as Mickey Mouse, the vaping industry is using fun fruit and candy flavors to appeal to young people. And just as Big Tobacco marketed light cigarettes as safer, the vaping industry is advertising vaping as safer. This is the tobacco industry reinventing itself, and people seem to be falling for it.

Disclosures

Ms Buckles has no disclosures to report.

Suggested Readings

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