

Shared Decision Making in Early-Stage Lung Cancer Treatment: Adapting a Previously Developed Tool for an Underserved Patient Population

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Introduction: For certain patients, early-stage lung cancer can be treated with either stereotactic body radiation therapy (SBRT) or surgery; decision aids can assist patients and providers in this choice.

Methods: A patient education tool was previously developed at a large tertiary referral center. With statewide catchment, our center treats a high proportion of patients from minoritized racial backgrounds, with low incomes, and with limited health literacy. Through key informant and focus group interviews, we gathered perspectives regarding how to refine the tool for use in this unique care setting. The acceptability of this novel tool was measured using post-clinic interviews in accordance with the ASSESS tool and Standards for Reporting Implementation Studies. Patients receive follow-up surveys once treatment decisions have been made.

Results: After studying the implementation process of the tool, we modified it for use in our clinical space. The prototype highlights fundamental information about surgery and SBRT, including the benefits and drawbacks of each. The tool offers a place for the patient to share their treatment goals and any other additional information. In the ongoing post-clinic interview study, we have screened 64 patients and enrolled 11 based on predetermined criteria. In our initial assessment of acceptability, all patients interviewed report the decision tool is useful and provides ample information regarding each treatment option.

Conclusion: Our pilot data indicates acceptability and feasibility of adapting a patient education tool to our unique clinical setting. Additional work is ongoing to assess what effect this tool has on the decision-making process.

Figure

SURGERY

Surgery is a viable option for many people diagnosed with early-stage lung cancer. There are various types of surgeries that can be performed to treat early-stage lung cancer, and the choice of surgery depends on the specific circumstances of the patient.

Types of lung cancer surgeries

Some common types of lung cancer surgeries include:

- Lobectomy:** Removal of one entire lobe of the lung
- Segmentectomy:** One specific segment of the lung is removed
- Wedge Resection:** One piece or wedge of the lung is removed

Types of surgical methods

The choice between these surgical options depends on the size and location of the tumor, as well as your overall health and lung function. Surgical procedures can be conducted using one of two methods:

- Open surgery:** A large cut is made to access the cancer
- Minimally invasive surgery:** Surgery that uses tools, cameras, and lights to be able to work with several tiny cuts in your skin

What to expect

Surgery usually takes about 1-3 hours. You will stay overnight in the hospital for a few days to recover. You will need to see a surgeon for follow-up every 6 months for the first 2 years, and then every 12 months for the next 3 years, to check to make sure the cancer does not come back.

What are the benefits of surgery?

- Surgery removes the tumor from your lungs. Many patients like knowing that the tumor is taken out.
- Doctors can check the margins (or edges) of the tumor to make sure the whole tumor is removed. They also send a sample to be studied to get a more accurate cancer stage. For non-small cell lung cancer, there are four stages. The size of the tumor, whether the cancer has spread to lymph nodes, and whether the cancer has spread outside the lungs determines what stage the cancer is. Knowing the stage gives your doctors more information for future treatment if you need it.
- Doctors can also get an accurate cancer stage if your lymph nodes are checked. About 15% of people who were thought to have early-stage lung cancer have a higher stage of cancer and about 10% have cancer in their lymph nodes. If this is the case, your health care team might suggest other treatments like chemotherapy, immunotherapy, and/or radiation.
- The chance of your cancer coming back in your chest is likely slightly lower with surgery than with radiation.
- Regular scans will be used to help keep track of the size and spread of the cancer. Doctors can be more certain about what they are seeing in your lungs on follow-up scans if you have surgery compared to radiation.

What are the drawbacks of surgery?

- It takes people about 2-6 weeks to get back to regular activities after surgery. The time varies based on the approach used (minimally invasive or open surgery) and the amount of the lung removed.
- Surgery can be risky for some people who have other health issues in their lungs. The chance of major complications from surgery (such as pneumonia, bleeding, and blood clots) is 5-10%. About 5-10% of people feel long-term pain after surgery.
- People sometimes feel short of breath long-term.
- The chance of dying from surgery is about 1 in 100 (1%).
- Continued smoking increases the risk of the cancer returning and the risk of complications during surgery. Quitting smoking even after a cancer diagnosis increases survival by about 40%, and your treatment team can help you quit smoking.

RADIATION THERAPY

Radiation is a good option to treat early-stage lung cancer for many people. If you are treated with radiation, you are not radioactive and are not dangerous to other people. You do not have any radiation in your body after treatment. Radiation does not cause you to lose your hair.

What is radiation?

Cancer cells are different from normal cells because they divide and make more of themselves very quickly. Radiation uses high energy X-rays to kill the cancer cells by making small breaks in the cells' DNA. Eventually, these breaks cause the cancer cells to die and stop dividing.

What to expect

For stage I lung cancer, most people have 1-5 sessions of radiation total, given over 1-2 weeks. Each session lasts 30 minutes. Rarely, people may need up to 12 sessions.

You will have a scar in your lung from the treatment that needs to be followed.

You will usually need to see a radiation oncologist or member of the lung cancer team for follow-up every 3-6 months for the first 1-2 years, and then every 6-12 months to check to make sure the cancer does not come back.

What are the benefits of radiation?

- You will not need to stay overnight in the hospital. Radiation is done in an outpatient clinic room.
- You will not need any anesthesia or blood draws.
- You can keep doing all of your regular activities, even if you feel tired.
- Radiation can be done in most people, even if they have other health issues like severe COPD or heart disease. It is easier to recover from radiation than from surgery.
- The chance of major complications is very low.

What are the drawbacks of radiation?

- Radiation does not remove the cancer or sample the lymph nodes to check on its stage or spread. Therefore, you might not know the true stage of your cancer. Regular scans are used to watch for changes. About 15% of people who were thought to have early-stage lung cancer have a higher stage of cancer and about 10% have cancer in their lymph nodes.
- About 5% of patients may develop short-term lung irritation a few months after treatment, which might be treated with steroids.
- People sometimes feel short of breath long-term, but feeling short of breath is usually due to prior scarring from smoking and not from radiation.
- Less than 10% of patients will develop short-term pain in the chest 9-12 months after treatment.
- The chance of your cancer coming back in your chest is likely slightly higher than if you had surgery.
- Continued smoking increases the risk of the cancer returning and risk of death from cancer and other health conditions. Quitting smoking even after a cancer diagnosis increases survival by about 40%, and your treatment team can help you quit smoking.

Figure 1: Shared Decision-Making Tool