FIVE THINGS TO KNOW ABOUT ...

Screening for lung cancer

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1 Use of computed tomography (CT) to screen for lung cancer in high-risk groups has been associated with a significant reduction in deaths from the disease

Evidence from a systematic review showed that, after a mean follow-up of 6.5 years, screening for lung cancer with CT in high-risk groups was associated with a reduction in deaths from the disease, from 309 to 274 per 100 000 person-years, for a relative risk reduction of 20.0% (95% confidence interval 6.8%–26.7%).[1] Detection of localized disease increases the number of suitable surgical treatment options, including wedge resection and pneumonectomy. Further follow-up data are needed to clarify the long-term mortality benefits of screening for lung cancer with CT. No significant mortality benefit exists for screening with chest radiography or sputum cytology.[1]

2 Current guidelines recommend using low-dose CT to screen patients at high risk of lung cancer

The lung cancer screening guidelines of the American Cancer Society[2] have been endorsed by the American College of Chest Physicians and the American Society of Clinical Oncology. Patients who are current smokers or have quit within the past 15 years, are between 55 and 74 years of age and have a minimum 30 pack-year history of smoking are advised to undergo annual CT screening for lung cancer.[1,2]

3 Low-dose CT is not without risks

In a randomized controlled trial, the false-positive rate was 21% after the first screening with low-dose CT.[3] A positive finding often necessitates follow-up, which could lead to a higher cumulative dose of radiation. A high false-positive rate can also lead to increased patient anxiety and to unnecessary invasive procedures, including percutaneous and thoracoscopic biopsies.[1,3]

4 A validated risk calculator can optimize patient and physician decision-making with regard to follow-up screening

Using data on patient demographics and smoking patterns and the characteristics of nodules detected through screening with low-dose CT, the risk calculator can accurately predict the probability that the nodules are cancerous.[4] This tool may prove useful for individualized follow-up screening that is based on the preferences and risk tolerance of the patient. (The risk calculator is available at www.brocku.ca/lung-cancer-risk-calculator.)

5 Canada does not have a publicly funded screening program for lung cancer

Some provincial cancer organizations have released formal guidelines recommending that patients at high risk be screened for lung cancer.[5] However, they caution that screening should be provided only in high-volume centres with enough expertise available to offer the appropriate follow-up care.[5] Smoking is still the cause of 90% of cases of lung cancer, and smoking cessation is still the most effective measure for decreasing the rates of death from the disease.[2] Screening programs for lung cancer have not decreased smoking rates.[2] Before a government-funded screening program for lung cancer can be started in Canada, cost-effectiveness and feasibility studies will be needed.

References

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