
RSNA15: Subsolid Lung Nodules Pose Greater Cancer Risk to Women than Men



A certain type of lung nodule visible on lung cancer screening CT exams is associated with a higher risk of lung cancer for women than men, according to a new study being presented next week at the annual meeting of the Radiological Society of North America (RSNA 2015) in Chicago. Researchers reviewed data from the National Lung Screening Trial (NLST), a large, randomised control study that demonstrated the value of CT screening in reducing lung cancer mortality.

Lung nodules are small masses of tissue in the lungs that are classified as solid or subsolid based on their appearance on CT. Solid nodules are dense, and they obscure adjacent tissue, while subsolid nodules are divided into two different types: part solid (nodules with both a solid component and a ground-glass, or hazy area), and pure ground glass, which are devoid of solid elements. Nodule consistency is considered an indicator of lung cancer risk, with part solid nodules being most strongly associated with lung cancer in the screening setting.

The study is the first to look at the differences in lung cancer risk for nodule subtypes between women and men. Phillip Boiselle, MD, from Beth Israel Deaconess Medical Center and Harvard Medical School in Boston, and co-authors characterised all CT-detected nodules measuring 4 to 30 mm by consistency using the NLST database and calculated the relative risk of developing a lung cancer for each nodule consistency subtype.

Out of 26,455 participants, 9,994 (37.8 percent) had a positive screen at one or more points during the trial. Women with ground-glass nodules had a significantly higher relative risk of lung cancer than men with the same type of nodules, and a similar trend was observed for part-solid nodules. In contrast, the relative risk of lung cancer for solid nodules was comparable for both sexes.

According to the researchers, part-solid nodules had the highest predictive value of cancer in both sexes, whereas ground-glass nodules had the lowest predictive value in men and solid nodules had the lowest predictive value in women.

"The main difference we found was that women were 50 percent more likely than men to have ground-glass nodules and, when these nodules were present, women had a substantially higher risk of developing lung cancer," Dr. Boiselle explained.

Current lung cancer screening guidelines do not take into account gender differences when managing nodules of different consistencies. Although more research is needed before changes are made to clinical practice, the new findings suggest that women with ground glass nodules may need closer follow-up than men.

Source: [Radiological Society of North America](#)

Image credit: Beth Israel Deaconess Medical Center

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