



Low Dose CT of the Lungs (LDCT) for Lung Cancer Screening in Smokers - Update

-By Dr. Bhavin Jankharia and Dr. Parang Sanghvi

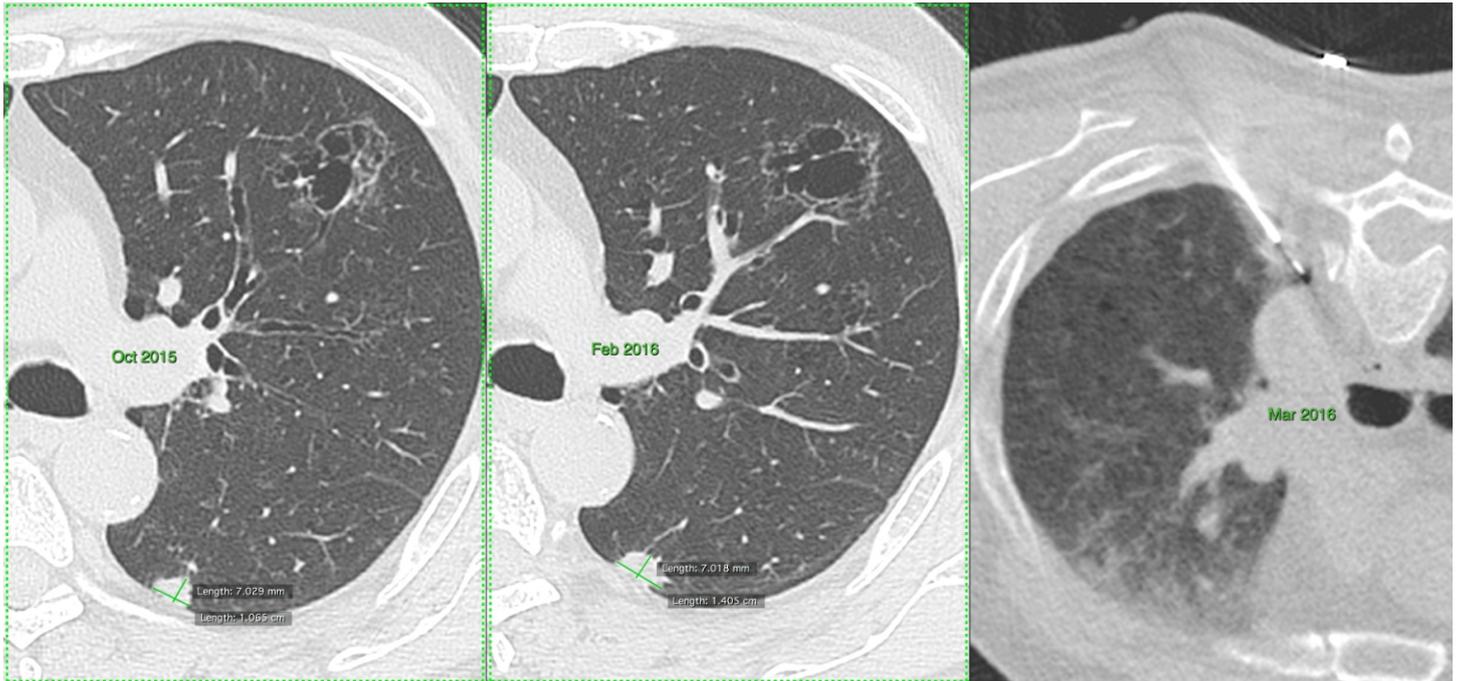


Fig. 1: A 52 years old man with a 30 pack years of smoking history was screened using the LDCT protocol. The CT scan apart from the emphysema shows a subpleural nodule in Oct 2015, measuring 7.0 x 10.0 mm in the superior segment of the left lower lobe. This is a Category 4A lesion and he was advised follow-up at 3 months. The follow-up study in February 2016 shows mild progression (7.0 x 14.5 mm) and a CT guided biopsy was advised and performed and showed adenocarcinoma.

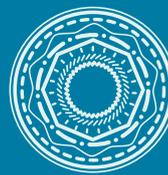
Subsequent PET/CT showed no other disease. This is a Stage IA lesion. The patient has been operated and is doing well.

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Introduction:

Lung cancer constitutes 14.4% of all cancers in India and about 32 out of 100 deaths caused by cancer are due to lung cancer. The vast majority of these are due to smoking. A new report suggests that in the US, smoking is responsible for at least 25% of all cancers.

CT scan of the lungs is the only test that has been demonstrated to reduce mortality from lung cancer in high-risk patients.

*At a glance*

- Low dose CT scan (LDCT) is the only test currently that can pick up lung cancer early
- LDCT saves lives
- Of our 111 patients screened so far, we have diagnosed 3 patients with lung cancer, a prevalence of 2.7%.

Technique:

With few modifications in the technical parameters, radiation exposure lower than usual, can be achieved easily. We use mAs of 50 that reduces the radiation exposure to about half (≈ 2.6 mSv).

Criteria:

- Age: 50 to 77 years
- Smoking: 20 or more pack years history of smoking
- One additional risk factor

Data:

The largest trial to date (National Lung Cancer Screening Trial – NLST) has shown the following

1. A lung cancer prevalence of 1% in the screened population
2. 63% of these lung cancers are Stage I
3. 20% reduction in mortality in this population.

Our Data:

In the last 1 year, we have screened 111 smokers with LDCT. 3 of these patients have had lung cancer (Fig. 1), while the rest are on varying schedules of follow-up based on the findings of their scans and reported as per the Lung-RADS criteria.

Additional Findings

In addition to nodules, other smoking related lung disease such as emphysema, interstitial lung disease or coronary artery disease can be assessed as well.

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