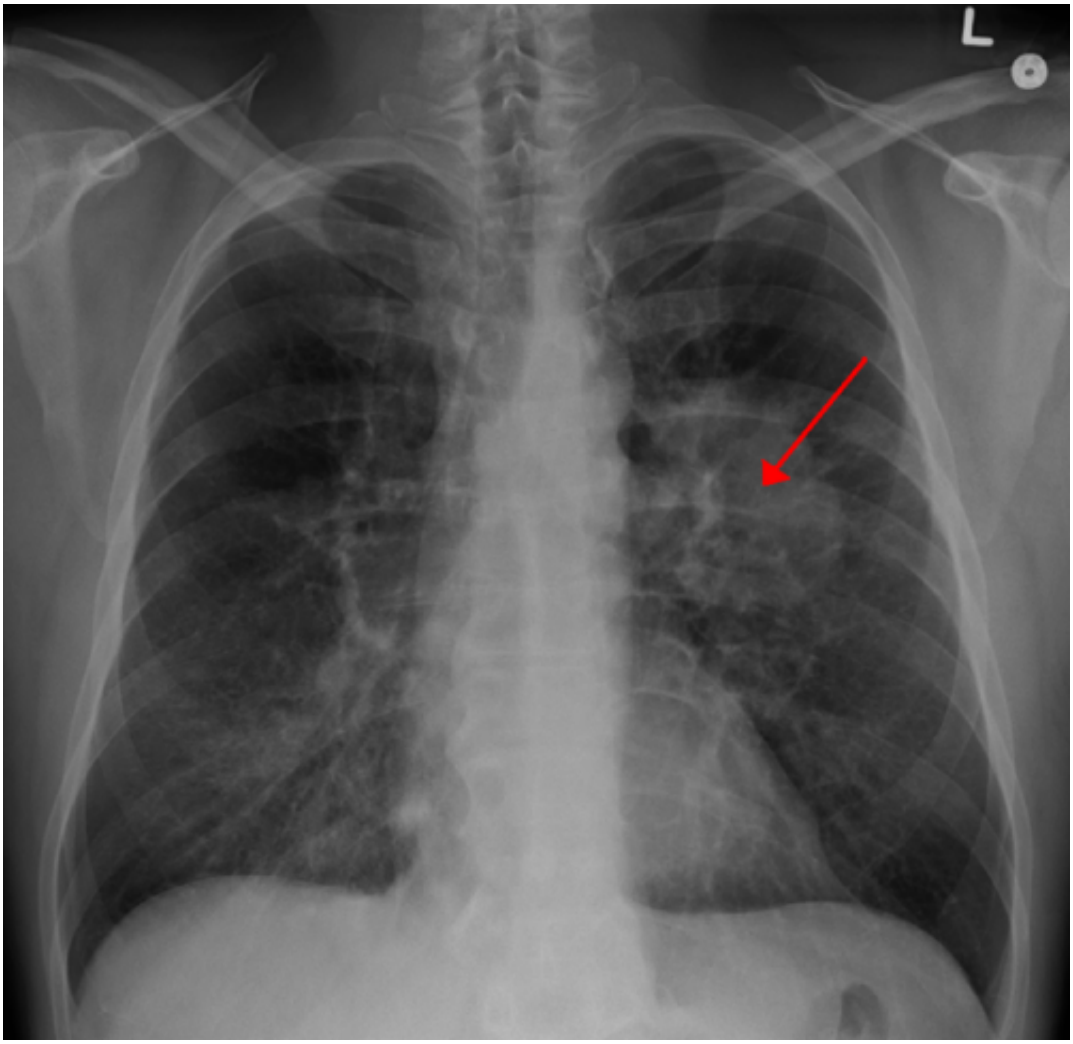
Detecting lung cancer sooner rather than later

July 22 2020, by David Bradley



Lung CA seen on CXR. Credit: CC BY-SA 4.0 James Heilman, MD/Wikipedia

A review of 40 research papers that discuss lung cancer detection technologies highlights the gaps in the various approaches to the diagnosis of this potentially lethal disease and reveals how research might be targeted to improve detection and thus prognosis. Writing in the *International Journal of Bioinformatics Research and Applications*, Malayil Shanid and A. Anitha of the Information & Communication Engineering department at Noorul Islam Center for Higher Education, in Kanyakumari District, Tamil Nadu, India explain the context of their review and its implications.

Lung cancer is one of the biggest killers of the modern age. Cancer is the second leading cause of death globally and is responsible for an estimated 10 million or so deaths annually, which amounts to one in six deaths. Of that approximately 10 million cancer deaths, about one in five is due to lung cancer. As with most cancers, early detection can greatly improve the prognosis of the disease, assuming appropriate treatment is available and undertaken. It also allows less invasive treatments to be employed, particularly reducing the level of surgery required, for instance.

Image processing coupled with machine learning has led to many improvements in the identification of malignant tissue in scan images for a wide range of diseases including lung cancer. The various techniques commonly look to distinguish between benign and malignant lesions seen in the scan. Computerized tomography is the tool of choice for detecting pulmonary nodules that might sit in either camp. A benign nodule can be treated relatively easily in contrast to a malignant one, which may develop rapidly and metastasize if not treated quickly.

More information: Malayil Shanid et al. An exhaustive study on the lung cancer risk models, *International Journal of Bioinformatics Research and Applications* (2020). DOI: 10.1504/IJBRA.2020.108429

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