

LUNG



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All modern imaging modalities have their respective strengths, as well as times and patients for which they are most useful. I treated a patient last year for whom an incidental finding on a Computed Tomography (CT) scan may have proven life saving at a point where other types of imaging would not have revealed her disease.

The cancer team at Bryn Mawr Hospital had treated this otherwise healthy 62-year-old woman for bladder cancer, with bladder removal, in 2003. CT scan had correctly indicated that the disease was confined to the bladder. Microscopically, though, her cancer was found at surgery to be aggressive, extending through the bladder wall and involving two lymph nodes. Postoperative CT scan again indicated no additional sites of disease, making her a good candidate for a hopefully curative course of adjuvant chemotherapy.

In July 2004, when the patient came for a follow-up CT scan (Fig. 1), I decided to request that the imaging include her chest, due to her history as a smoker. The scan revealed a one-centimeter nodule. In our efforts to evaluate this lesion, we had the patient undergo a Positron Emission Tomography (PET) scan (Fig. 2) here at Main Line Health several weeks later; but, this study was negative, probably due to the small size of the area of concern.

It was possible that a latent site of infection or other benign cause was the basis for the spot on the CT scan, but we followed again within a few months with a second chest CT scan that appeared to confirm a nodule, unchanged in the intervening weeks. The patient underwent a CT-guided biopsy that revealed the nodule to be an adenocarcinoma, unrelated to the original bladder cancer. Our surgeons performed a lobectomy on the patient, who did not require chemotherapy because of the very early stage of her lung cancer and high chance of cure.



Fig. 1: Positive result.

This patient is doing well now and has a good chance of cure from both forms of cancer. It is very fortunate that we detected the lung cancer in the follow-up CT scan, as the condition would have been significantly more advanced if discovered only after it could be detected by chest x-ray. Studies are now ongoing on the utility of routine CT scans of the chest for patients who are smokers, and our case is certainly a data point that might indicate the benefit of this kind of preventive imaging.



Fig. 2: Negative result.

image review

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Procedure: CT Imaging

We administered intravenous and oral contrast agent and then performed a CT scan of the pelvis and abdomen, including the lung parenchyma. We compared the images to the earlier CT scan study, with and without contrast.

The patient's organs and nodes were unremarkable except for some hepatic fatty infiltration and some right renal hypodensities consistent with infarction or inflammation. However, one image of our series revealed a nodule about 0.9 x 1 cm. in size in the lower left lobe. This raised concern for a possible metastasis

from the previous cancer or even a new unrelated cancer.

We recommended follow-up PET and CT scans.

*** Study performed, and read by radiologist, at Bryn Mawr Hospital. ***

information

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