



How Small a Lung Nodule Can We Biopsy

In 2012 we published an Inner Spaces issue titled “What is the Smallest Lung Nodule that can be Biopsied” and showed three examples of nodules measuring 8.5 mm, 7.9 mm and 7.5 mm (Fig. 1) respectively.

In April 2019, we published another Inner Spaces with the same title describing a 3.6 mm lung nodule biopsy.

Recently, a 68-years old with treated metastatic colon carcinoma and a recent oncocytic carcinoma of the thyroid presented with multiple lung nodules on a PET/CT. He needed a biopsy to confirm metastatic disease and the primary origin.

The most accessible nodule (Fig. 3) was a 3.0 x 3.1 mm nodule in the superior segment of the lower lobe of the left lung, which was then biopsied and the diagnosis was metastatic colon cancer.

With experience and expertise, we can keep pushing the boundaries of the smallest lung nodule that we can biopsy.

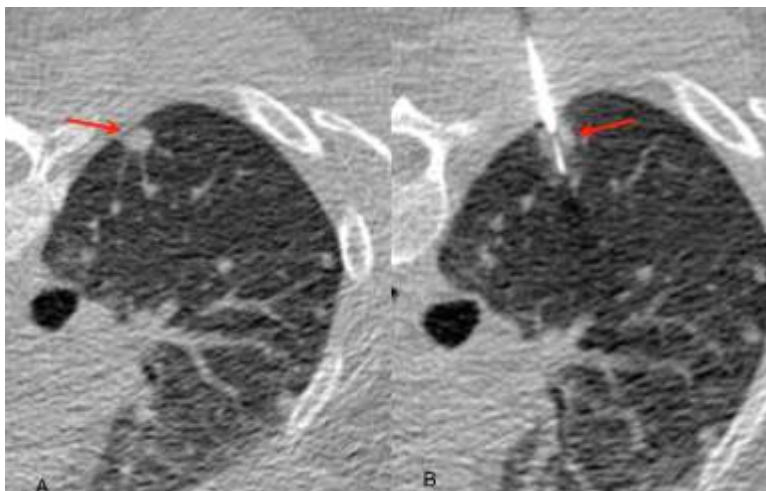
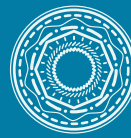


Fig. 1 (A,B): (Case from 2012). Tuberculosis. This patient had multiple lung nodules and had one failed FNAC as well. A 7.5 mm nodule in the right lower lobe was selected (arrow in A) and was successfully speared by the cannula (arrow in B).



At a glance

- ◆ Small lung nodules (< 5 mm), often need to be biopsied to understand their exact etiology, in diverse clinical situations
- ◆ The use of CT fluoroscopy has helped make it possible to biopsy even sub 4 mm nodules
- ◆ The smallest nodule that we have now biopsied is a 3.1 mm nodule

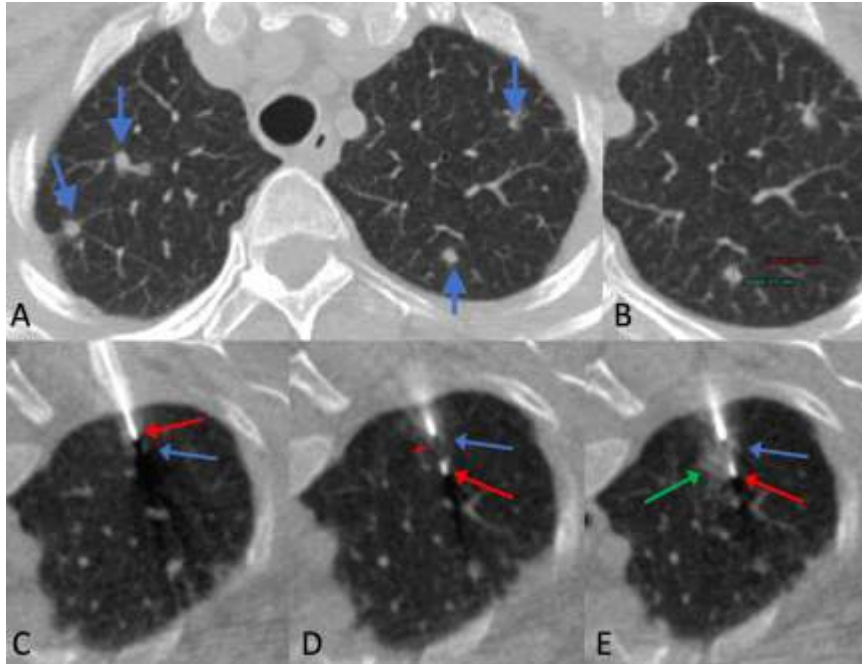


Fig. 2 (A-E): (Case from 2019) Granulomatous disease. 48 years old woman diagnosed recently to have buccal cancer. PET/CT showed multiple lung nodules (blue arrows in A). A 3.5 x 3.6 mm nodule in the left upper lobe was identified so that the biopsy could be done in the prone position. The blue arrow images C, D and E shows the nodule, while the red arrow shows the tip of the cannula in C and the tip of the deployed gun in D and E. The green arrow in E shows the small peri-nodular hemorrhage.

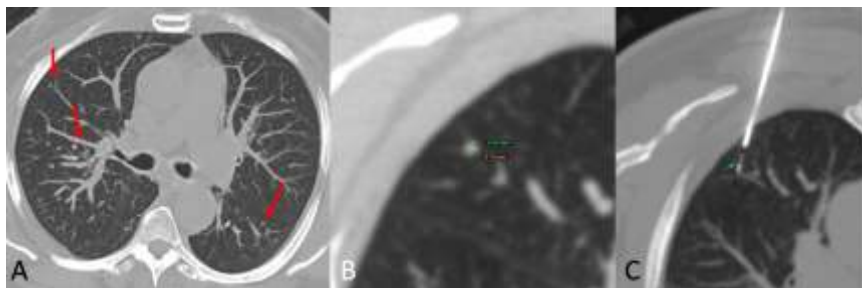


Fig. 3 (A-C): Metastatic colon cancer. 68 years old man known to have metastatic colon cancer and oncocytic thyroid cancer came with multiple lung nodules (arrows in A). The accessible nodule was 3.1 x 3.0 mm in diameter (B) and was biopsied using a 20G biopsy gun with a 10mm throw (C).

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