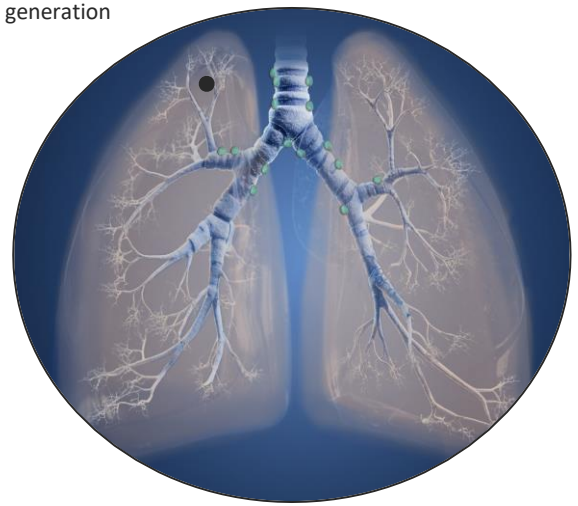
Peripheral Lung Cancer Diagnosis with New Generation Convex-Probe Endobronchial Ultrasound Bronchoscope: A Case Report

Pardessus A, Chalela R, Sánchez-Font A. Arch Bronconeumol. Published online October 11, 2025.

The peripheral EBUS bronchoscope enabled access to the fifth bronchial generation in the right upper lobe apical sub-segment, where a hypoechoic lesion with hyperechoic margins was sampled using a ViziShot2 25G needle (three passes).

Description of Lesion

Location:	Right upper lobe (RUL)
Generation:	5th bronchial generation
Size:	31 mm
Bronchus Sign:	Yes
PET:	Increased metabolic activity



Illustration; Please refer to publication for original images

Objective

To describe the use of a peripheral EBUS-TBNA bronchoscope (Olympus BF-UCP190F; 5.9 mm outer diameter; 170° upward angulation) in a patient with a spiculated mass in the right upper lobe (RUL).

Results

- 64-year-old male, heavy smoker (70 pack-years), HIV on antiretroviral therapy and hepatitis C-related cirrhosis grade 2.
- CT identified a 31 mm spiculated mass in RUL with bronchus sign, focal scarring, calcifications; no significant lymphadenopathy. PET scan confirmed increased metabolic activity.
- Initial bronchoscopy with r-EBUS located the lesion; cultures and brush cytology were negative for malignant cells.
- After the second bronchoscopy using Olympus BF-UCP190F, EBUS-TBNA cytology revealed atypical epithelial cells consistent with non-small cell lung carcinoma.
- Final diagnosis was a T2aN0M0 lung cancer and patient was scheduled for surgical resection.

Conclusion

This case demonstrates the advanced capability of the peripheral EBUS bronchoscope to reach and sample deeply located pulmonary nodules using real-time ultrasound guidance and precise needle aspiration, marking a step forward in bronchoscopic technology.

Olympus BF-UCP190F (5.9 mm outer diameter; 170° upward angulation)
ViziShot 25G Needle (NA-U401SX-4025N)
Olympus Radial EBUS Probe (UM-S20-17S)

Link to Publication

OLYMPUS EUROPA SE & CO. KG
Postbox 10 49 08, 20034 Hamburg, Germany
Wendenstrasse 20, 20097 Hamburg, Germany
Phone: +49 40 23773-0, Fax: +49 40 233765
www.olympus-europa.com

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M00765EN V01 • 11/25 • OEKG
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