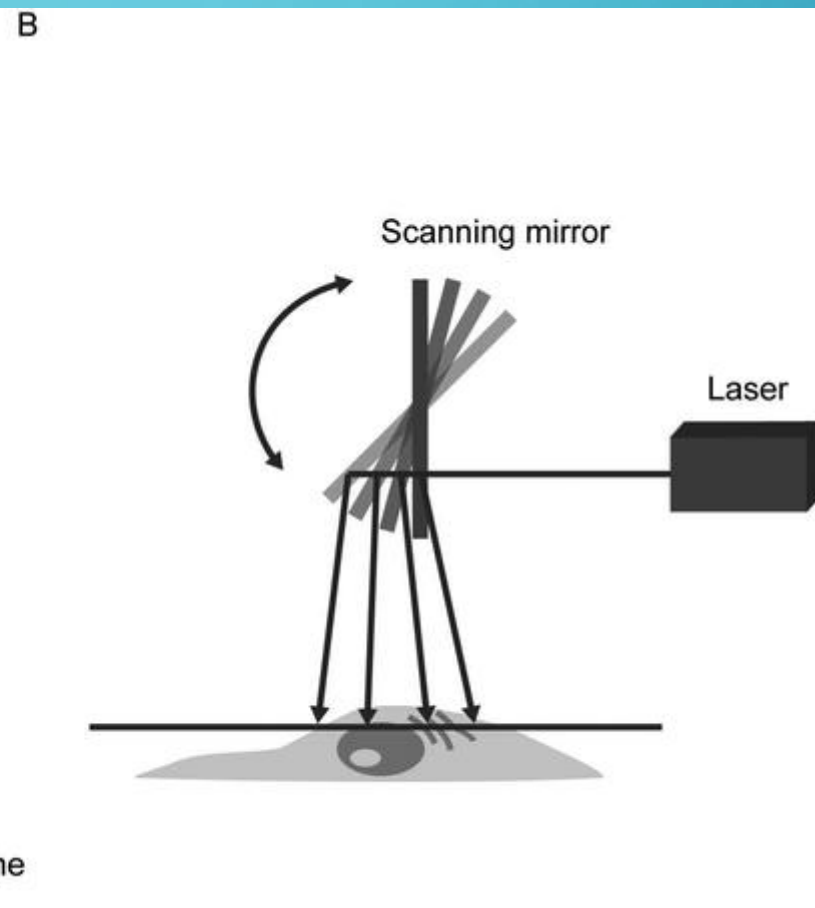
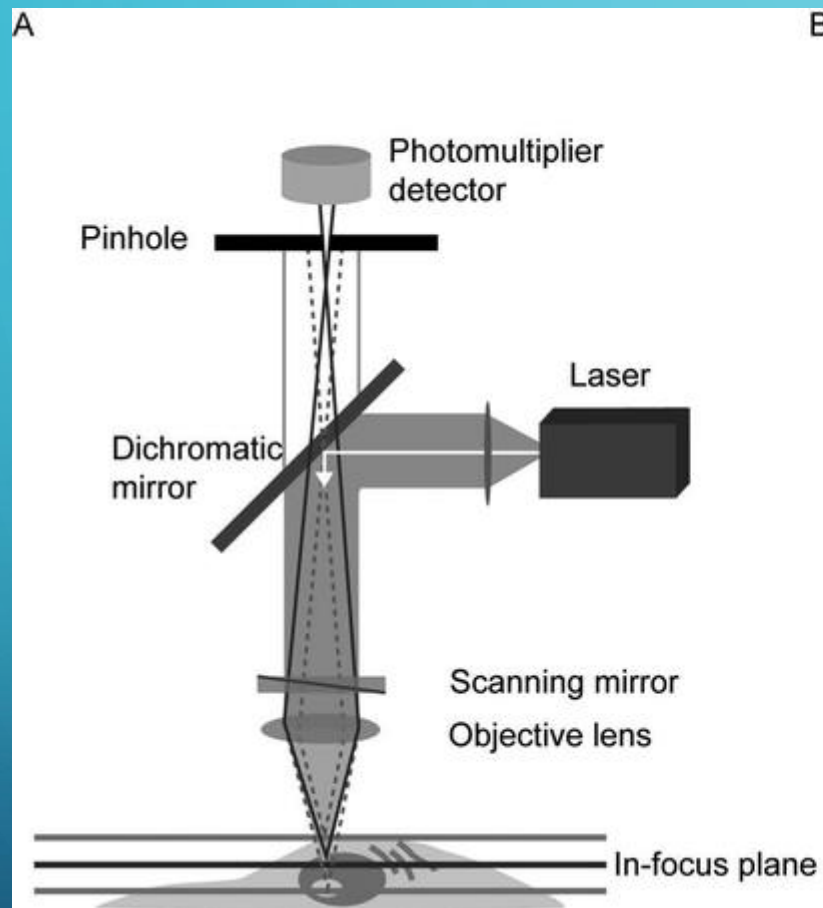


The background is a solid blue gradient. In the corners, there are decorative white line art elements resembling circuit boards or neural networks, with lines and small circles connecting them.

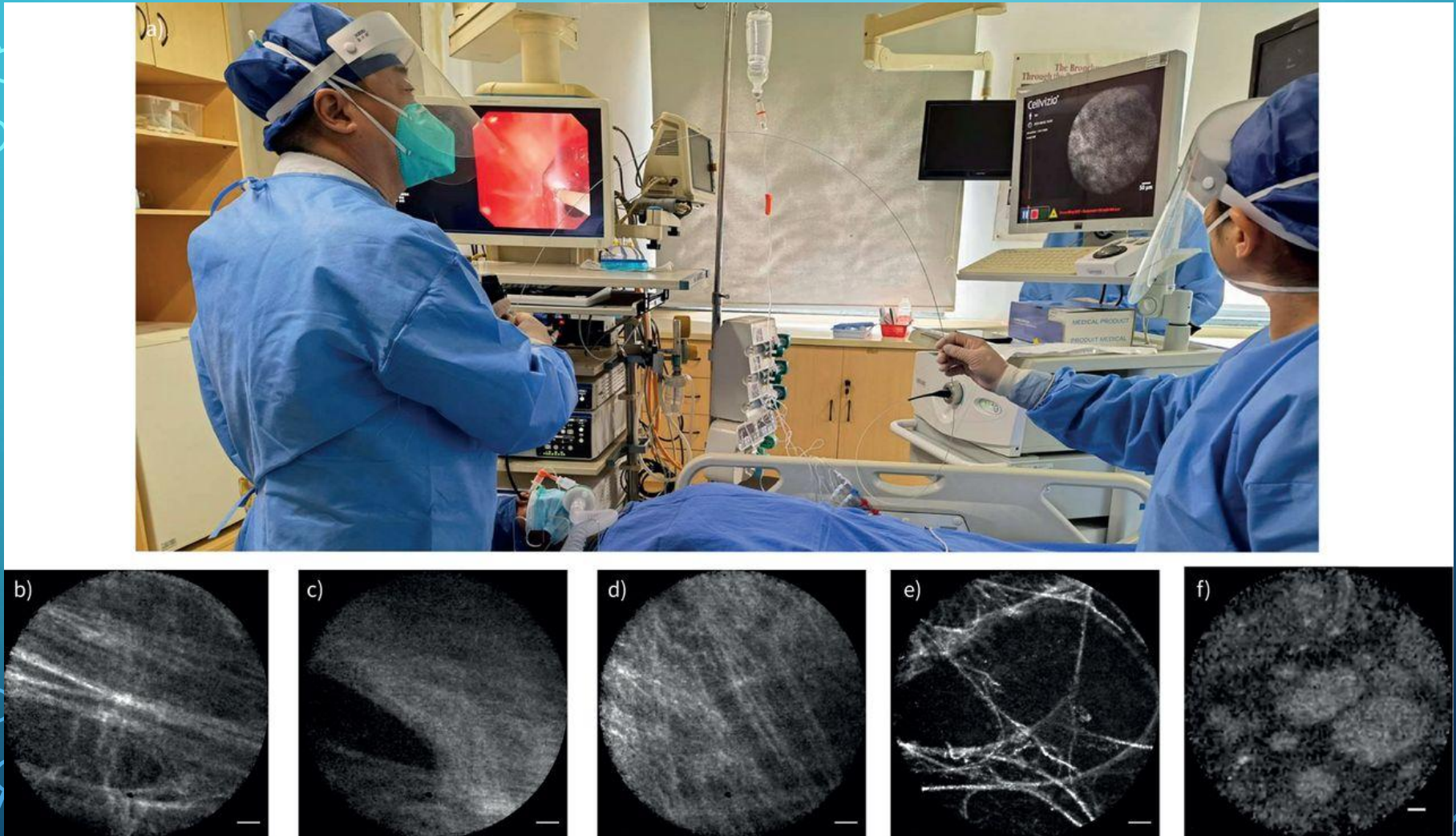
“ΣΥΝΕΣΤΙΑΚΗ ΜΙΚΡΟΣΚΟΠΗΣΗ”

CONFOCAL LASER ENDOMICROSCOPY

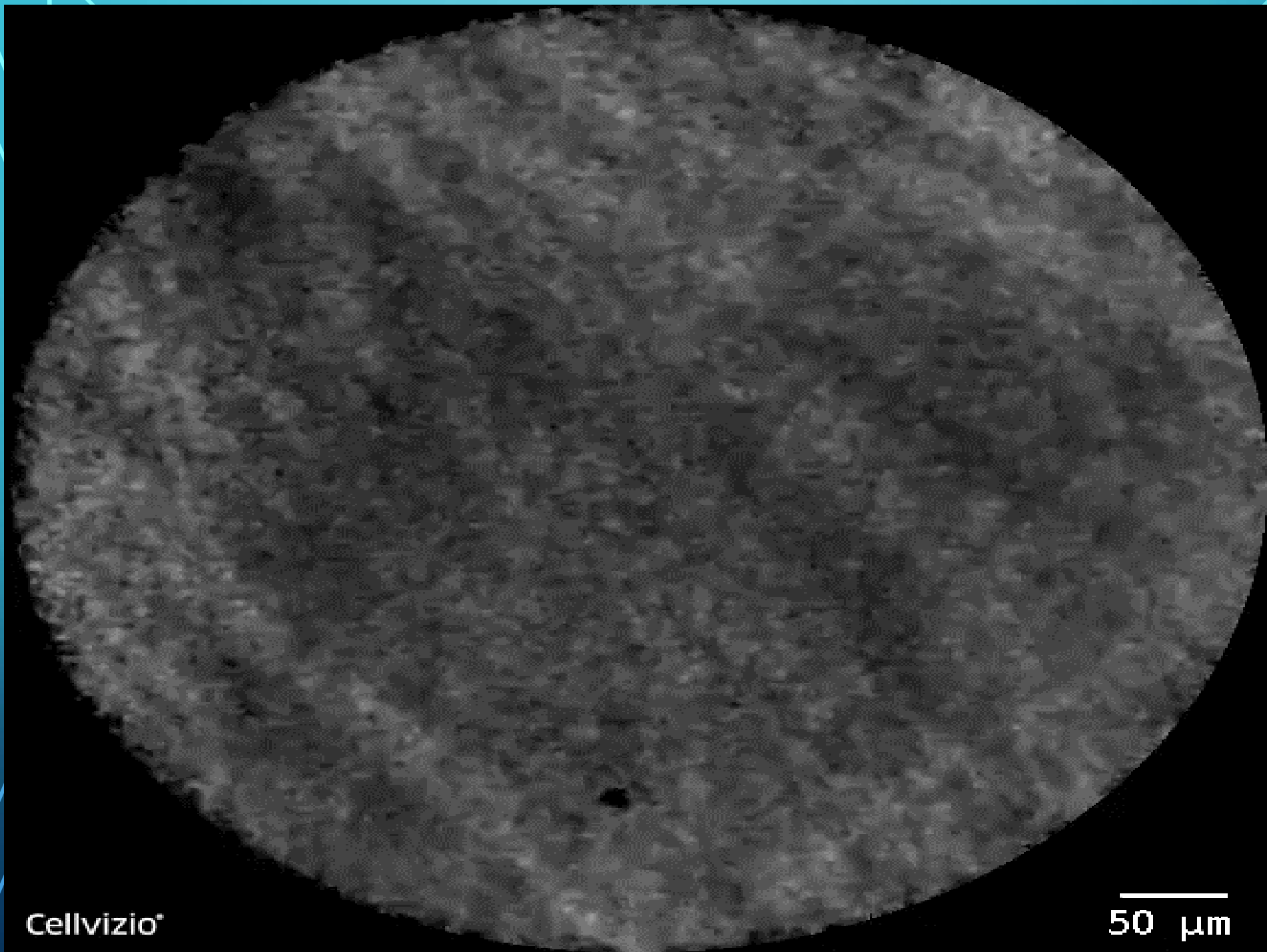


a) The operation of confocal laser endomicroscopy (CLE) in the clinical setting.

“

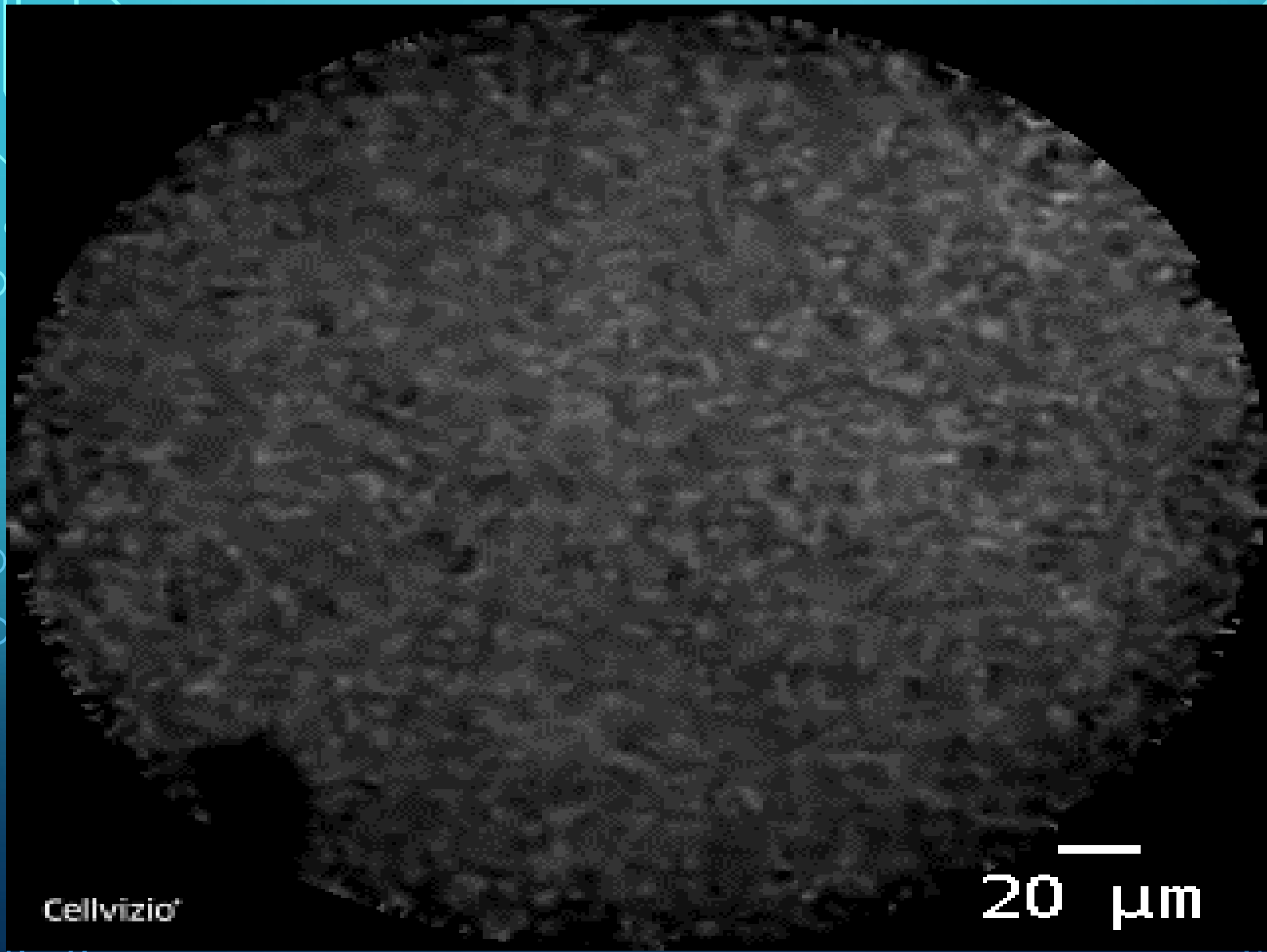


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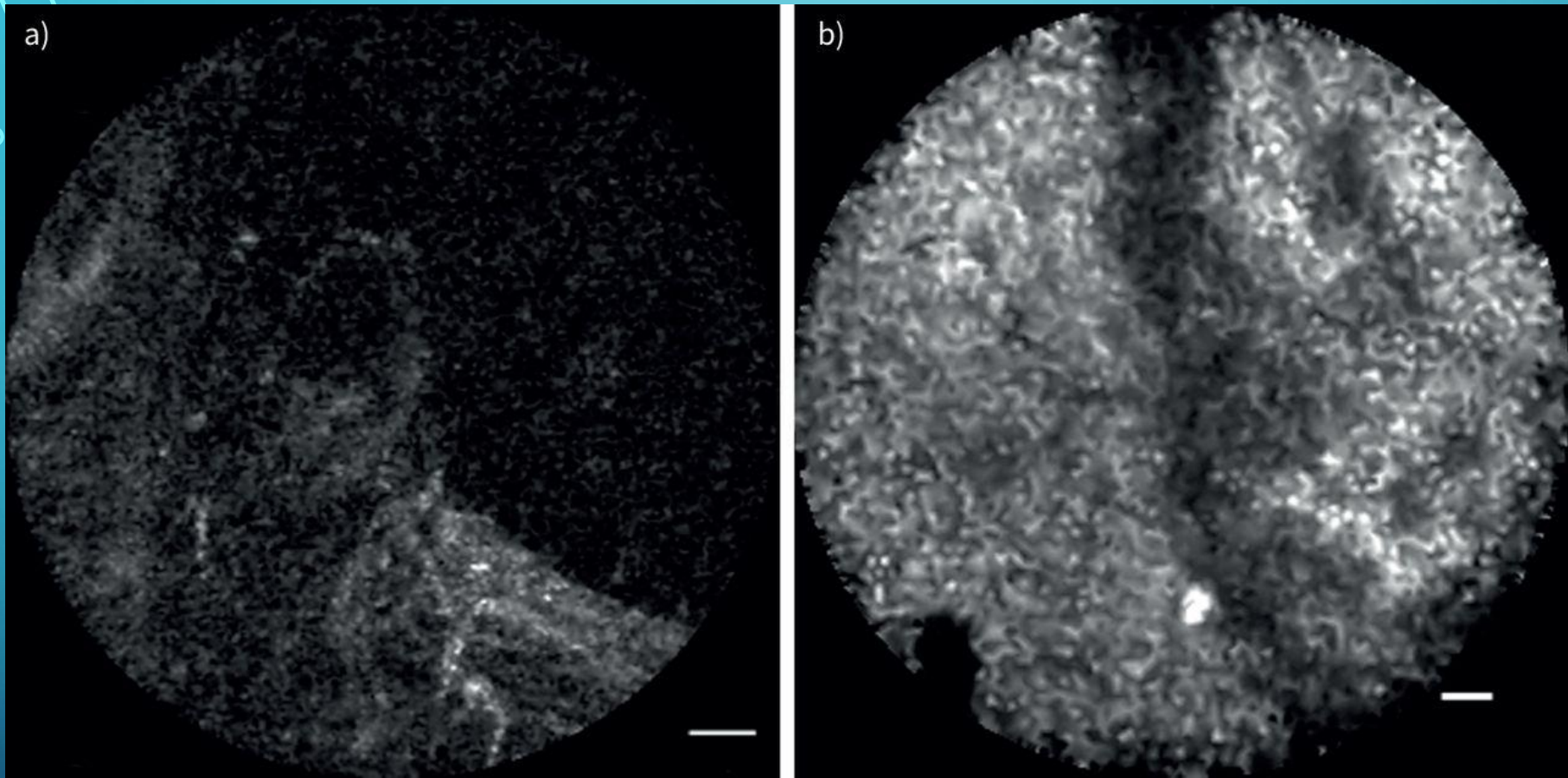
50 μm



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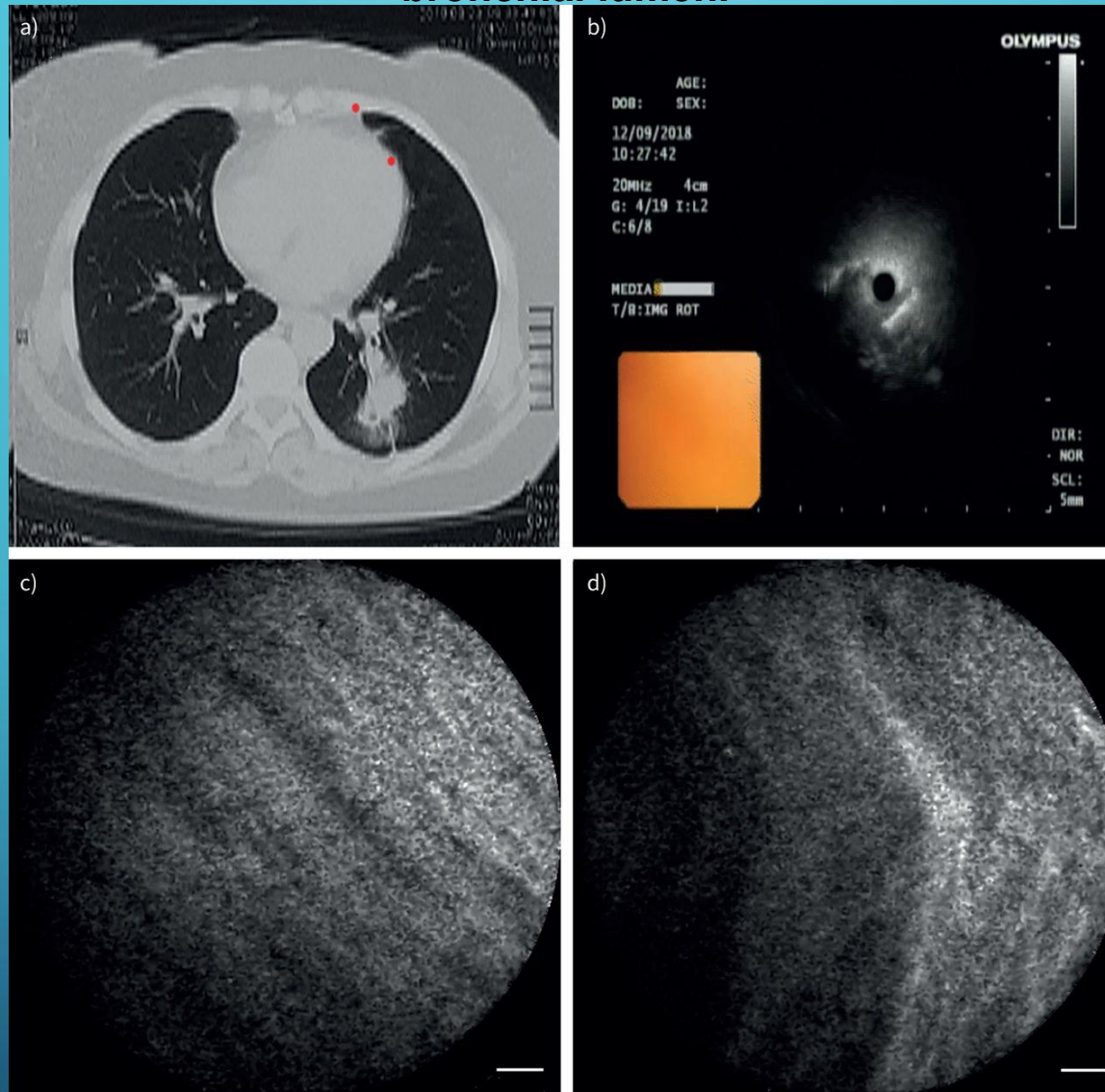
20 μm

a) Probe-based confocal laser endomicroscopy images showing disordered fibrous tissues with deep degradation of the original structure, accompanied with a spot or black hole structure. b) Needle-based confocal laser endomicroscopy (nCLE) in vivo real-time i...



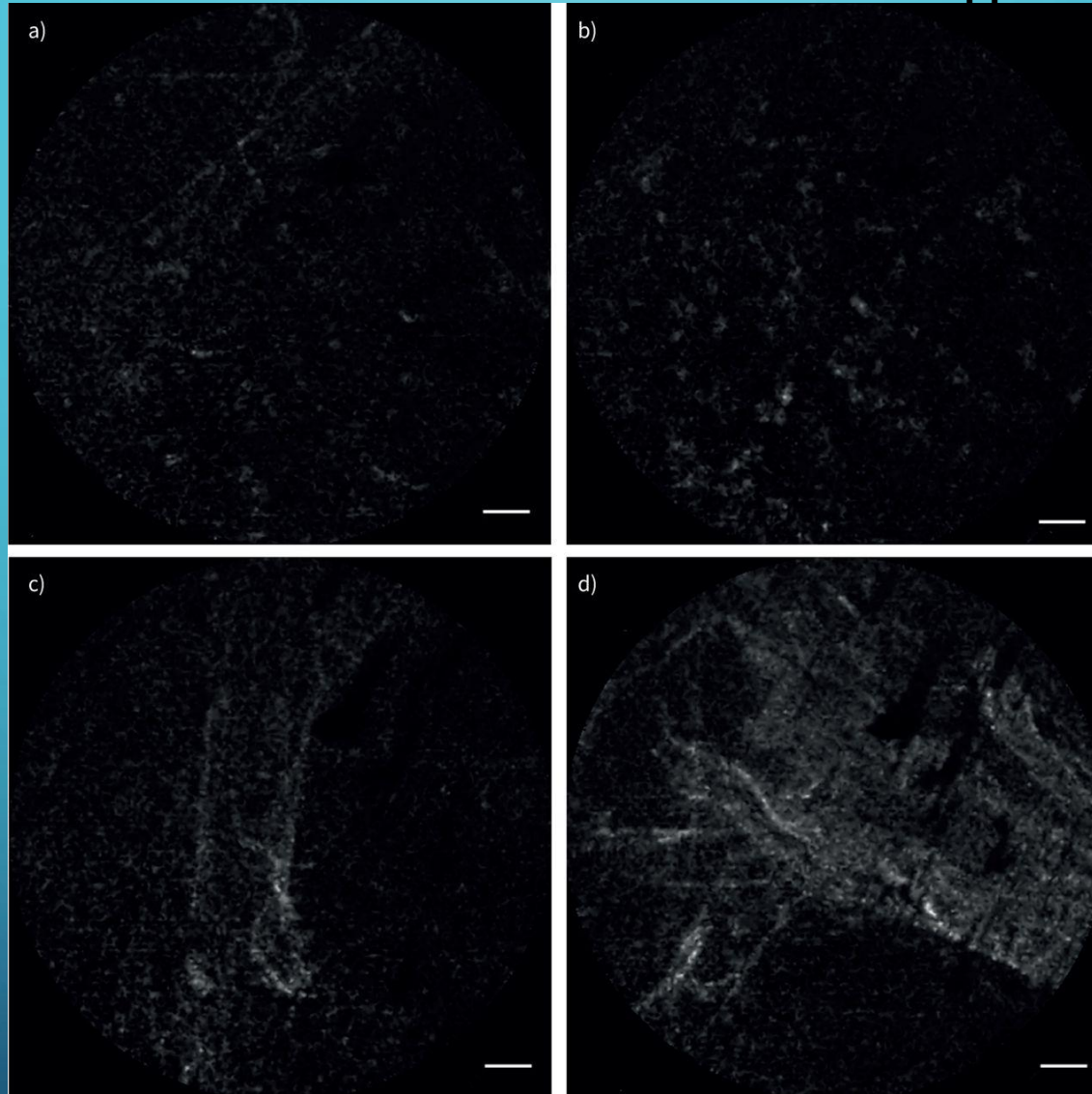
Sen Tian et al. Eur Respir Rev 2023;32:220185

a) Computed tomography scan of the chest showing a pulmonary nodule located in the left lower lobe. b) Radial endobronchial ultrasound confirming the lesion location outside the bronchial lumen.

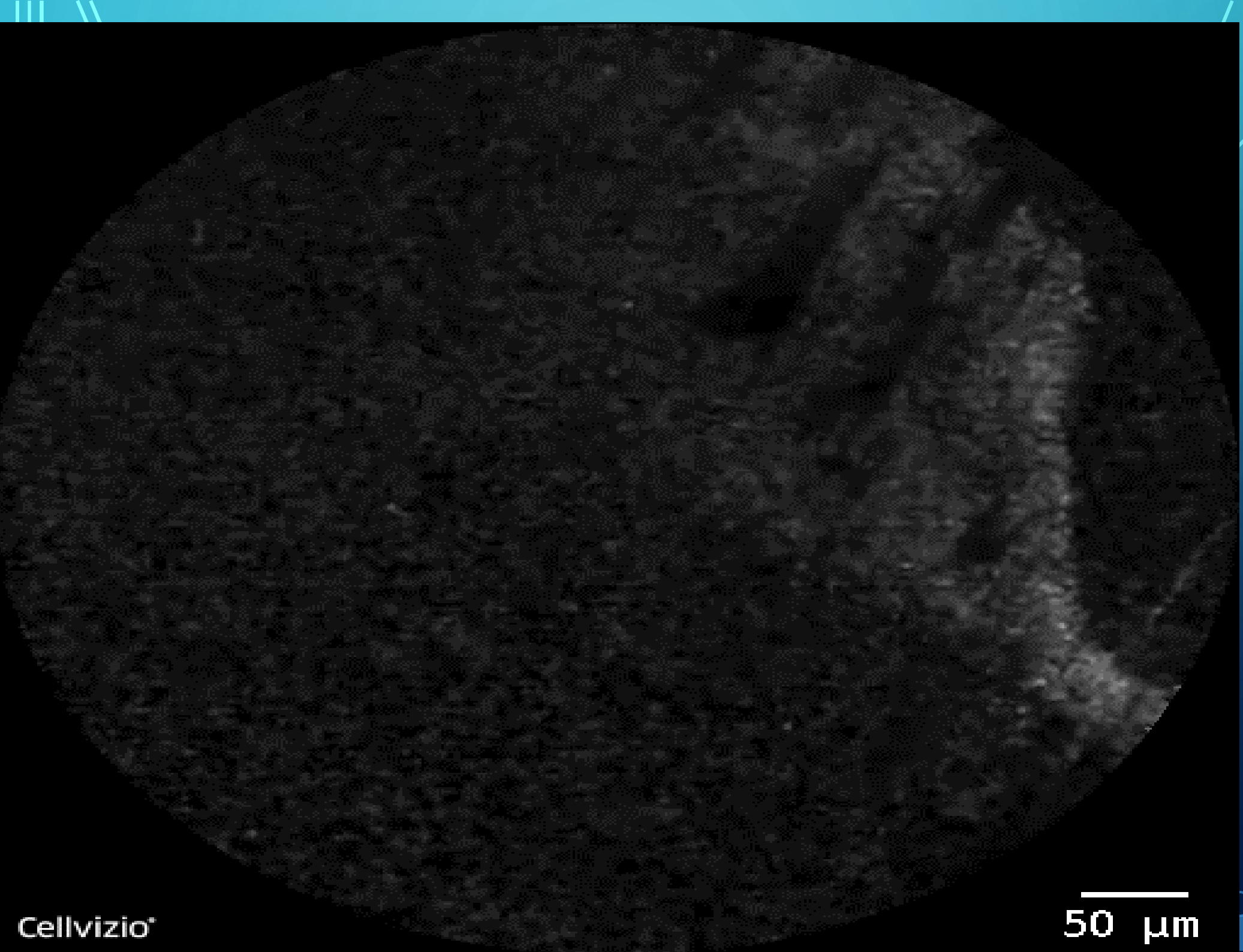


Sen Tian et al. Eur Respir Rev 2023;32:220185

Alveolar and perivascular cellular infiltration (PCI). a) Alveoli with minimal to absent alveolar cellularity. b) Abundant alveolar cellularity (AAC). c) Vessels with negative PCI. d) Vessels with positive PCI. Video 3 and video 4 are available as supplement...



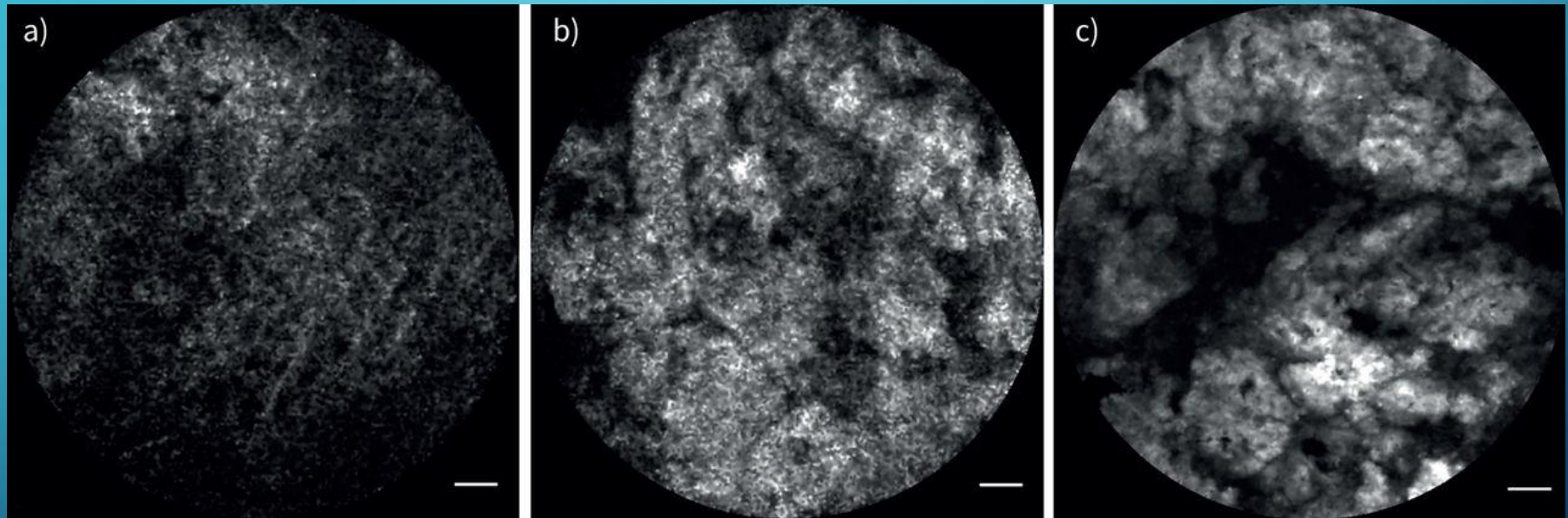
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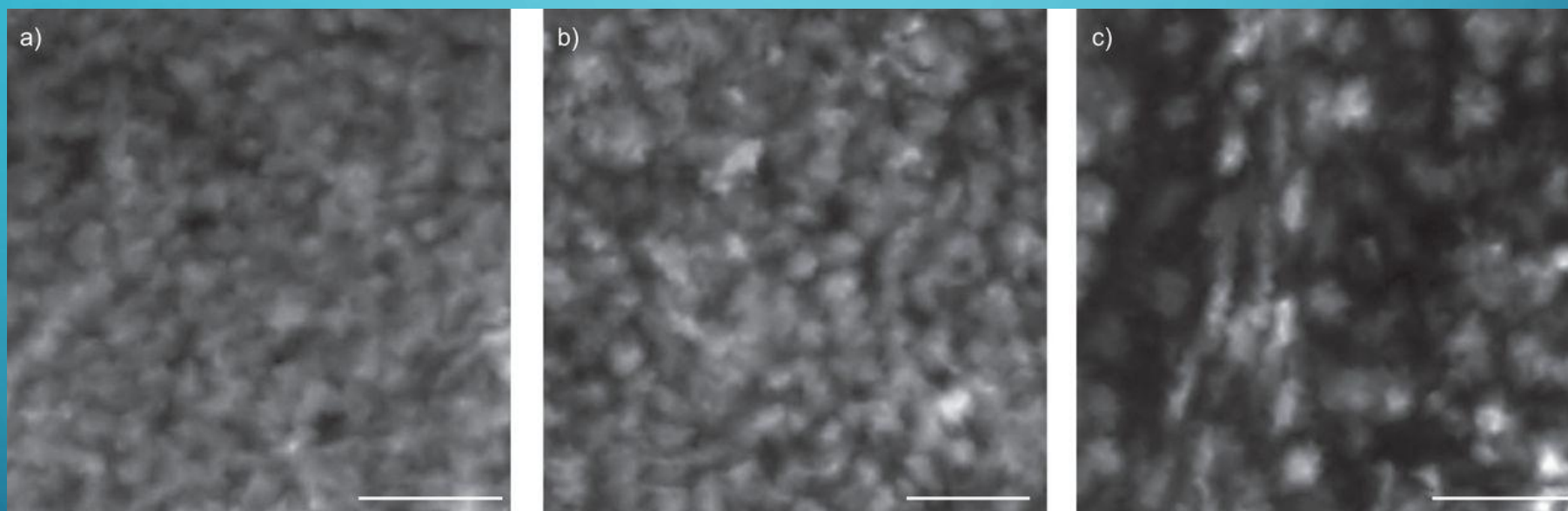
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Probe-based confocal laser endomicroscopy images showing a) mottled elastin and autofluorescent submucosa in tracheobronchopathia osteochondroplastica, b) unusual dappled with a patchy “cotton wool”-like appearance in bronchial amyloidosis and c) loss of th...



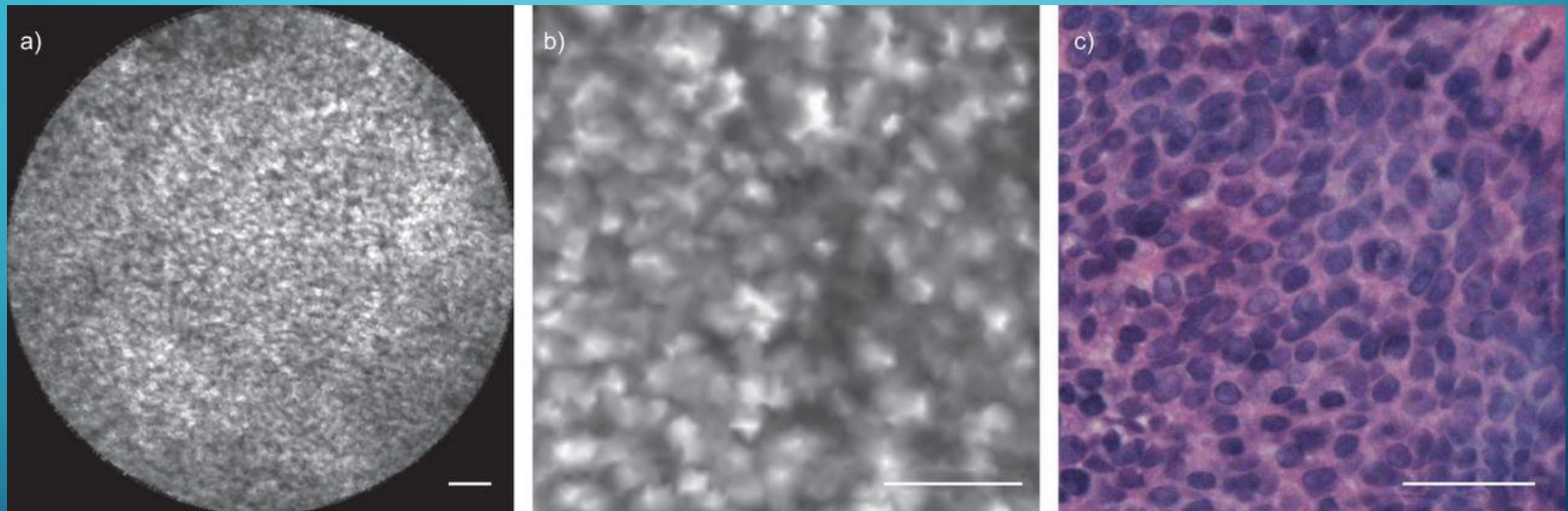
Sen Tian et al. Eur Respir Rev 2023;32:220185

Examples are shown for a) normal mucosa, b) inflammation regeneration and c) neoplastic lesion.



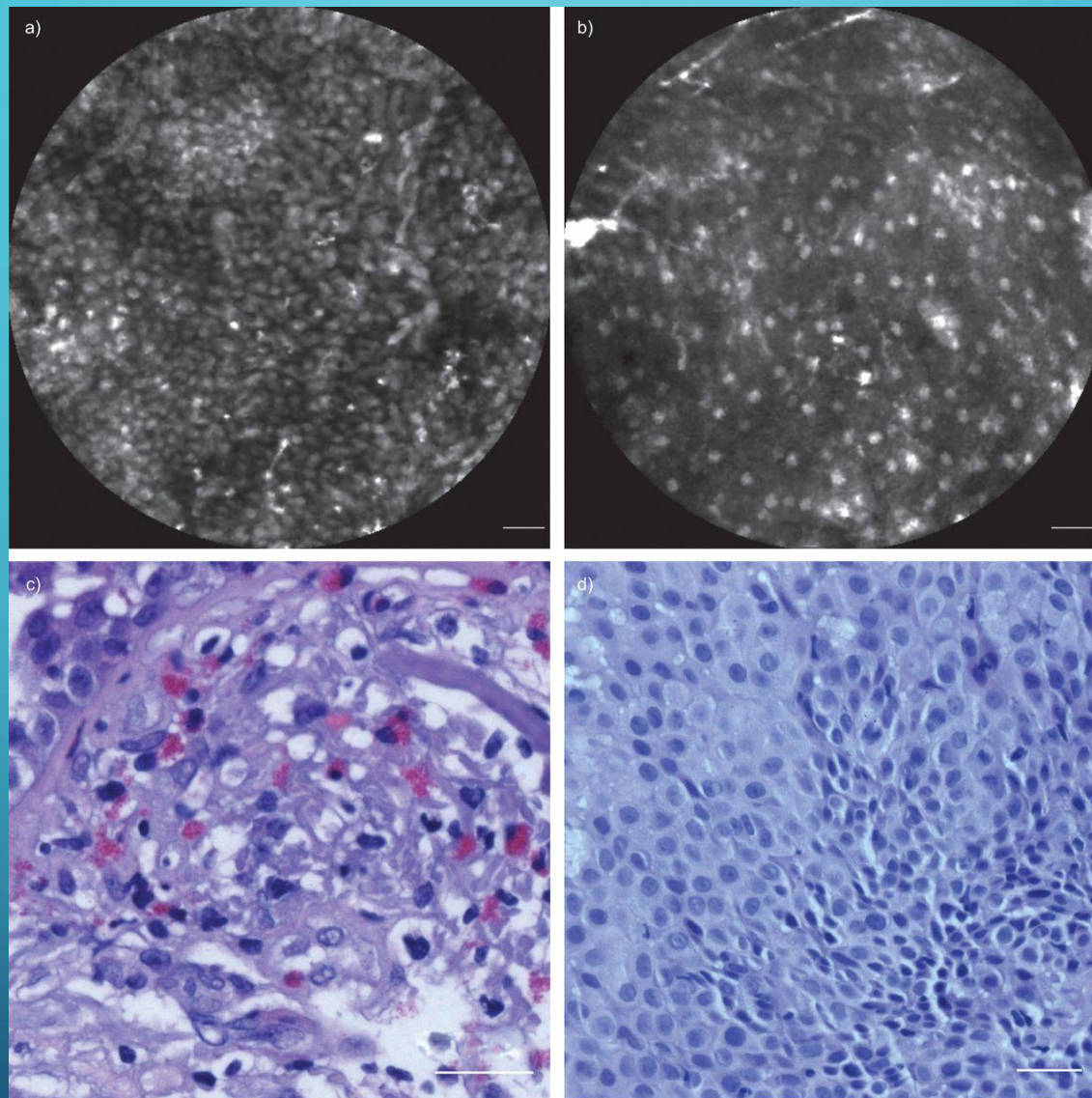
Florian S. Fuchs et al. Eur Respir J 2013;41:1401-1408

In vivo confocal laser endomicroscopy (CLE) imaging of normal airway mucosa after topical administration of acriflavine during bronchoscopy.



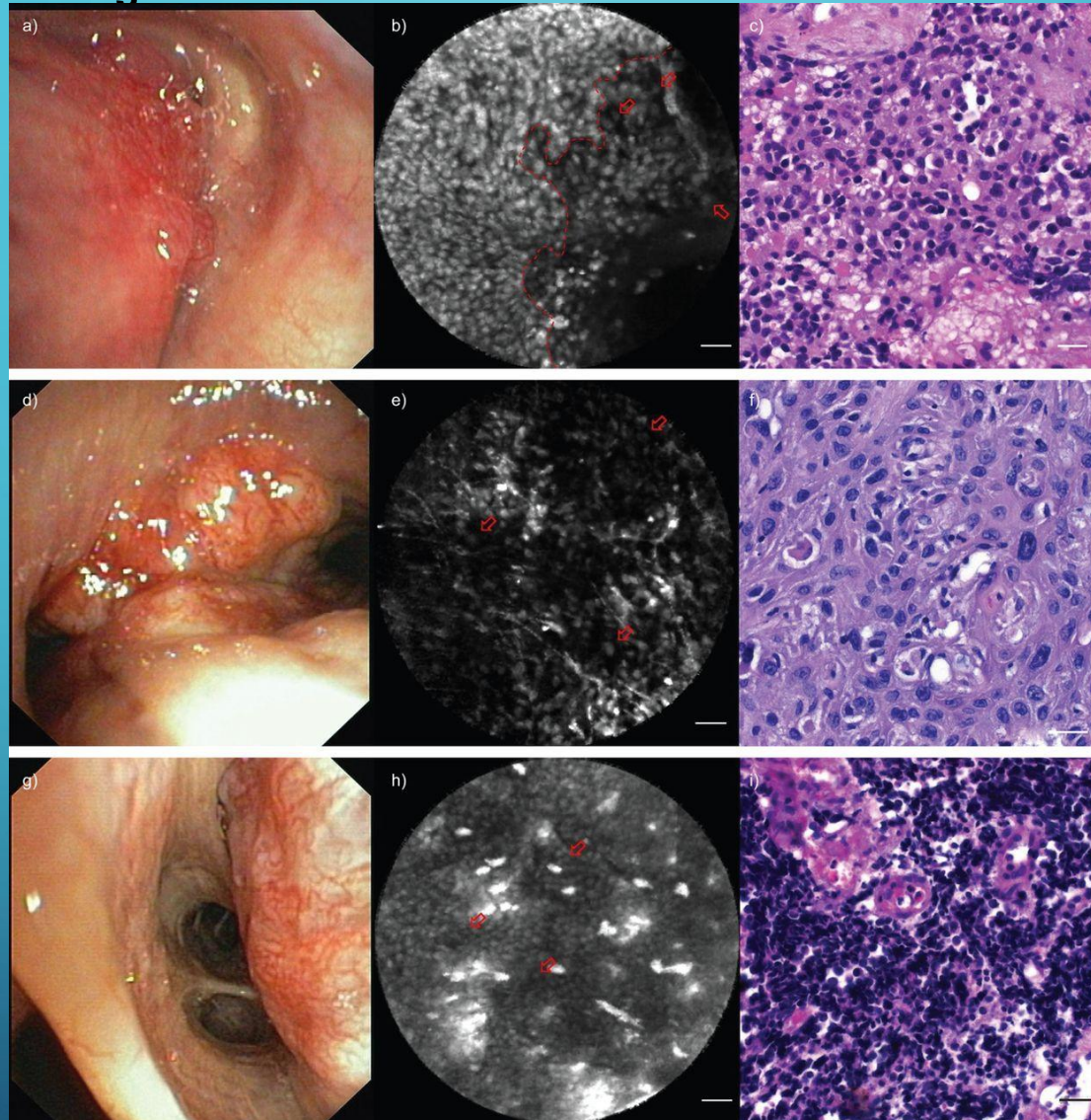
Florian S. Fuchs et al. Eur Respir J 2013;41:1401-1408

In vivo imaging during bronchoscopy.



Florian S. Fuchs et al. Eur Respir J 2013;41:1401-1408

Adenomatous carcinoma of the lung: a) bronchoscopic view of the bronchus intermedius, which was almost occluded by an exophytic lesion; b) confocal in vivo imaging of the lesion upon topical staining with acriflavine showed dark areas with little or no acri...



Florian S. Fuchs et al. Eur Respir J 2013;41:1401-1408

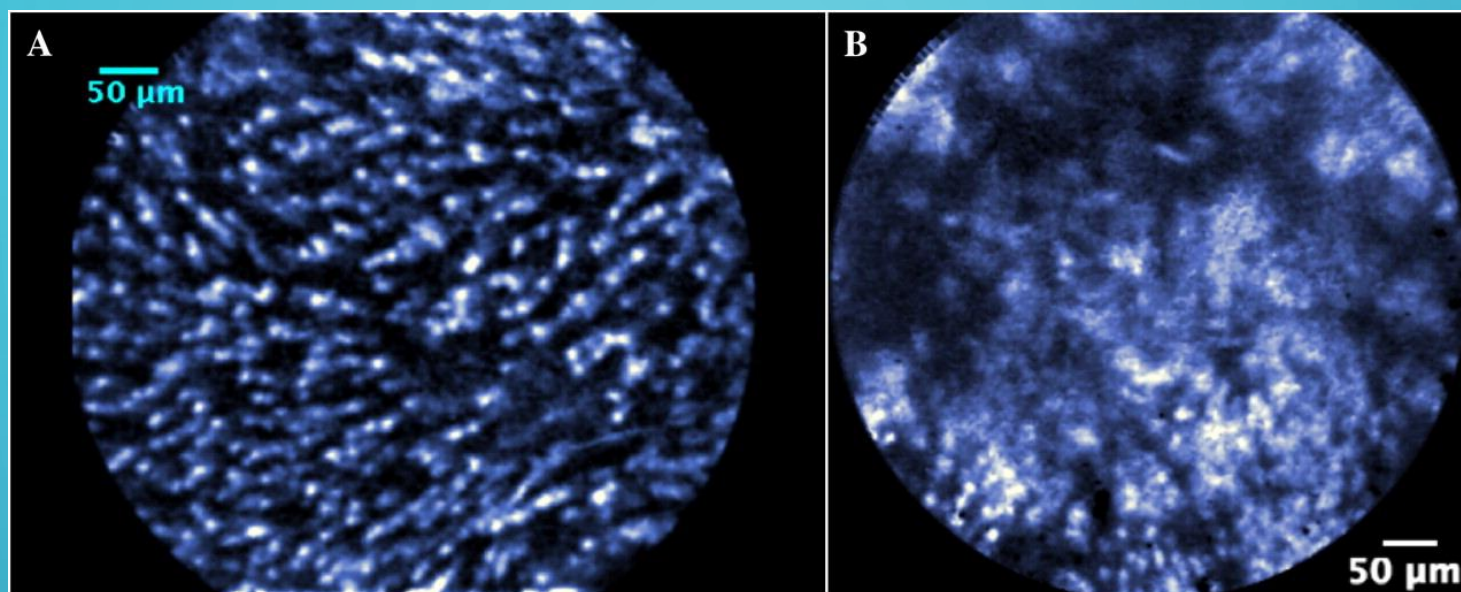


Figure 4. FCFM (660 nm excitation) after topical application of methylene blue (0.1%). (A) regular normal bronchial epithelium. (B) Peripheral lung nodule (adenocarcinoma).

Proc Am Thorac Soc,
<https://www.atsjournals.org/doi/abs/10.1513/pats.200902-009AW>

Published in: Luc Thiberville; Mathieu Salaün; Samy Lachkar; Stephane Dominique; Sophie Moreno-Swirc; Christine Vever-Bizet; Genevieve Bourg-Heckly; *Proc Am Thorac Soc* 2009 6444-449.

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Supplementary Figures

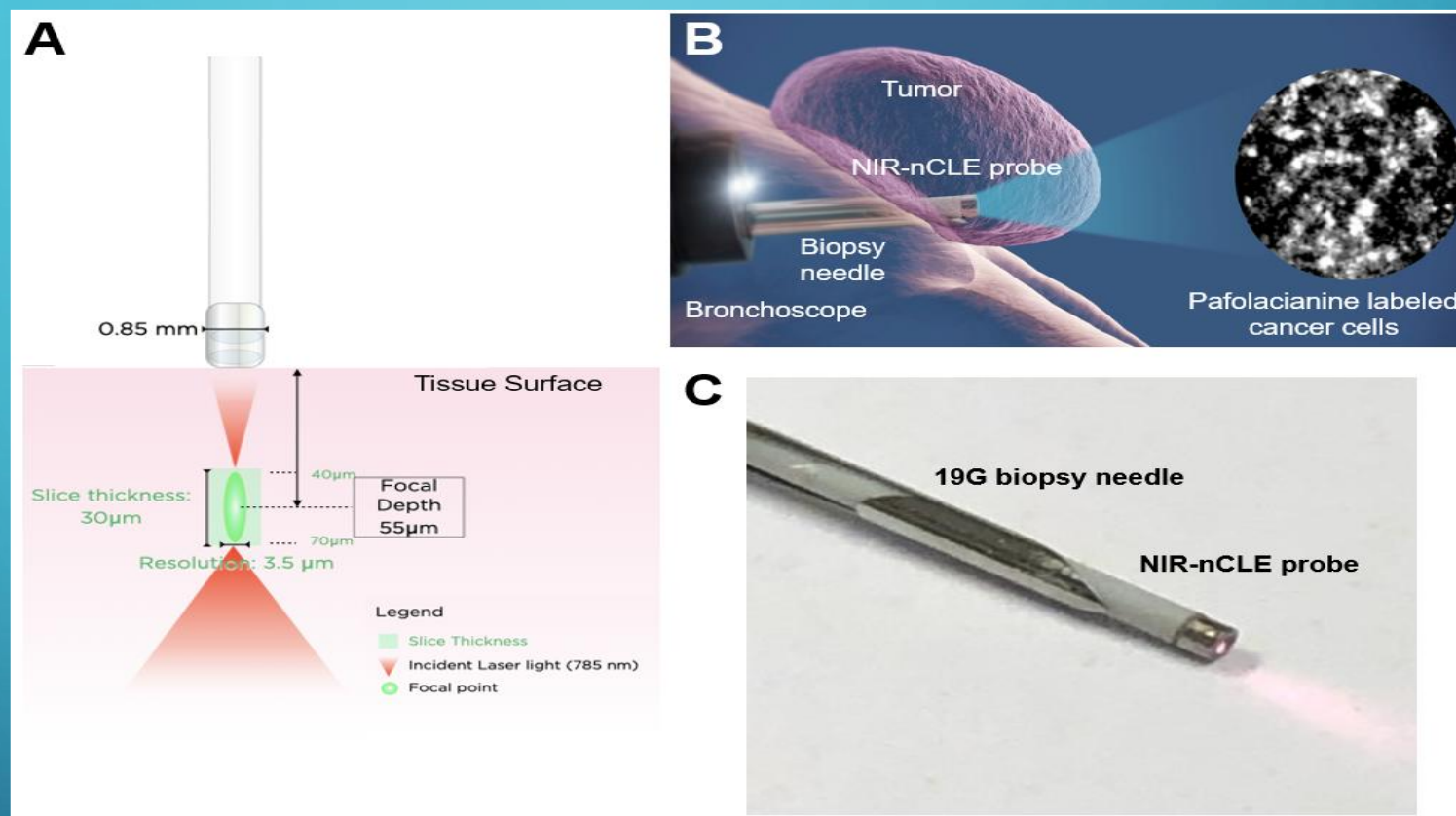


Figure S1. **A.** Technical overview of the NIR-nCLE probe tested in the study. **B.** Schematic overview of NIR-nCLE for bronchoscopic biopsy. **C.** Photograph of the NIR-nCLE probe within the lumen of the 19G biopsy needle used in the study.

Εφαρμογές μεθόδου σε κλινικές μελέτες

pCLE, nCLE

- Ανίχνευση καρκινικών κυττάρων σε αεραγωγό ή παρέγχυμα (π.χ. όζο)
- Διάγνωση κακοήθειας σε λεμφαδένα ή υπεζωκότα
- Προσδιορισμός ελεύθερου χειρουργικού ορίου διεγχειρητικά
- Μη νεοπλασματικές παθήσεις

Προβλήματα μεθόδου

- Ανεπαρκής εκπαίδευση
- Μικρός αριθμός αξιολογών μελετών
- Υψηλό κόστος
- Υποκειμενικότητα διάγνωσης

ΜΕΛΛΟΝΤΙΚΕΣ ΠΡΟΣΠΑΘΕΙΕΣ

- Ανάπτυξη νέων μεθόδων ανίχνευσης καρκινικών κυττάρων με δείκτες ανοσοφθορισμού π.χ. σεσημασμένη ερλοτινίμπη για ανίχνευση υποδοχέων EGFR μεταλλάξεων ή πιο εξελιγμένων τεχνολογικά μικροσκοπίων ή ακροδέκτες μίας χρήσης χαμηλότερου κόστους
- Αυτοματοποιημένες μέθοδοι ανάγνωσης των εικόνων με AI