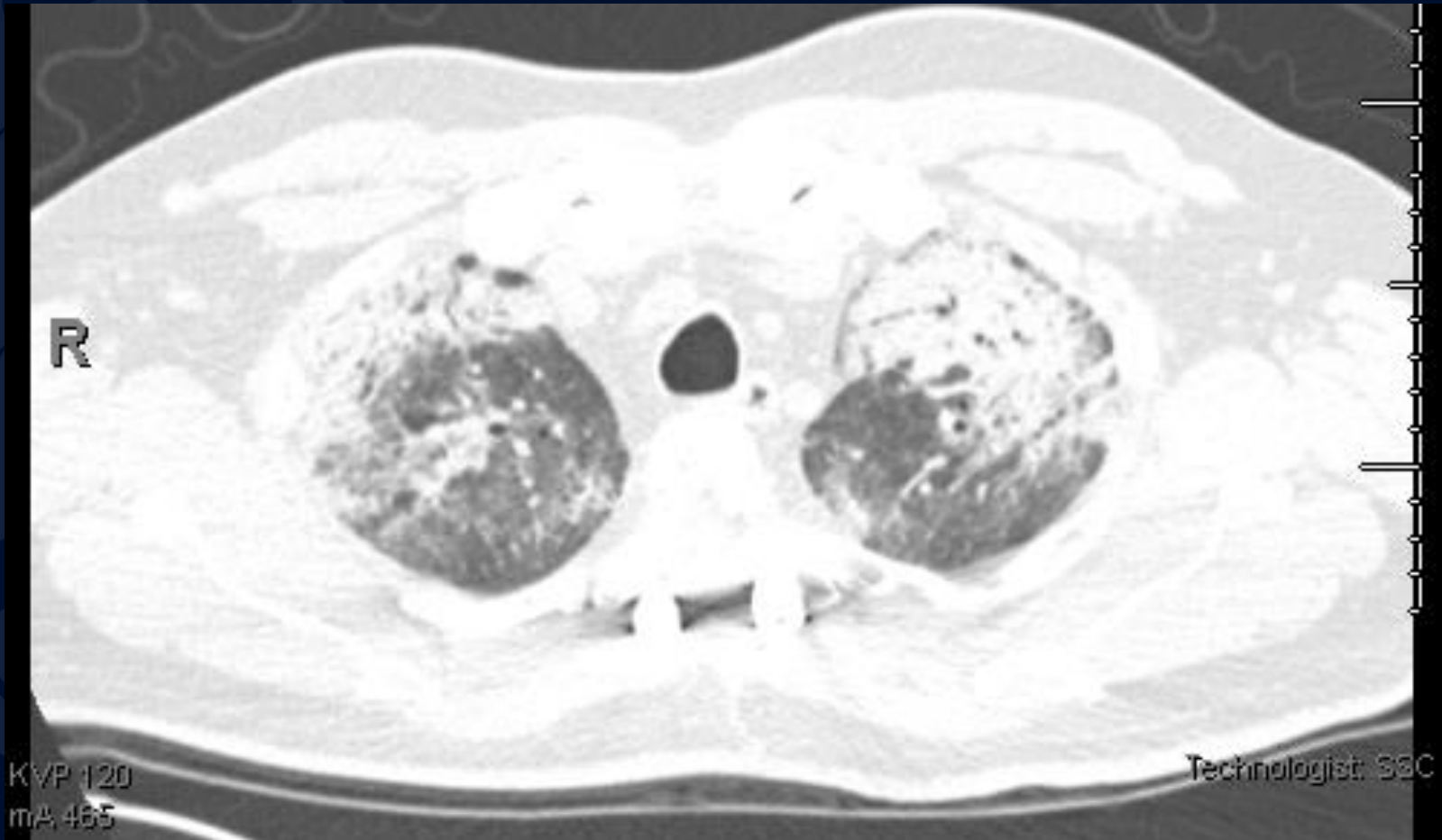


55M with stage IV metastatic melanoma on nivolumab, recently started ipilimumab, presented with worsening shortness of breath and cough

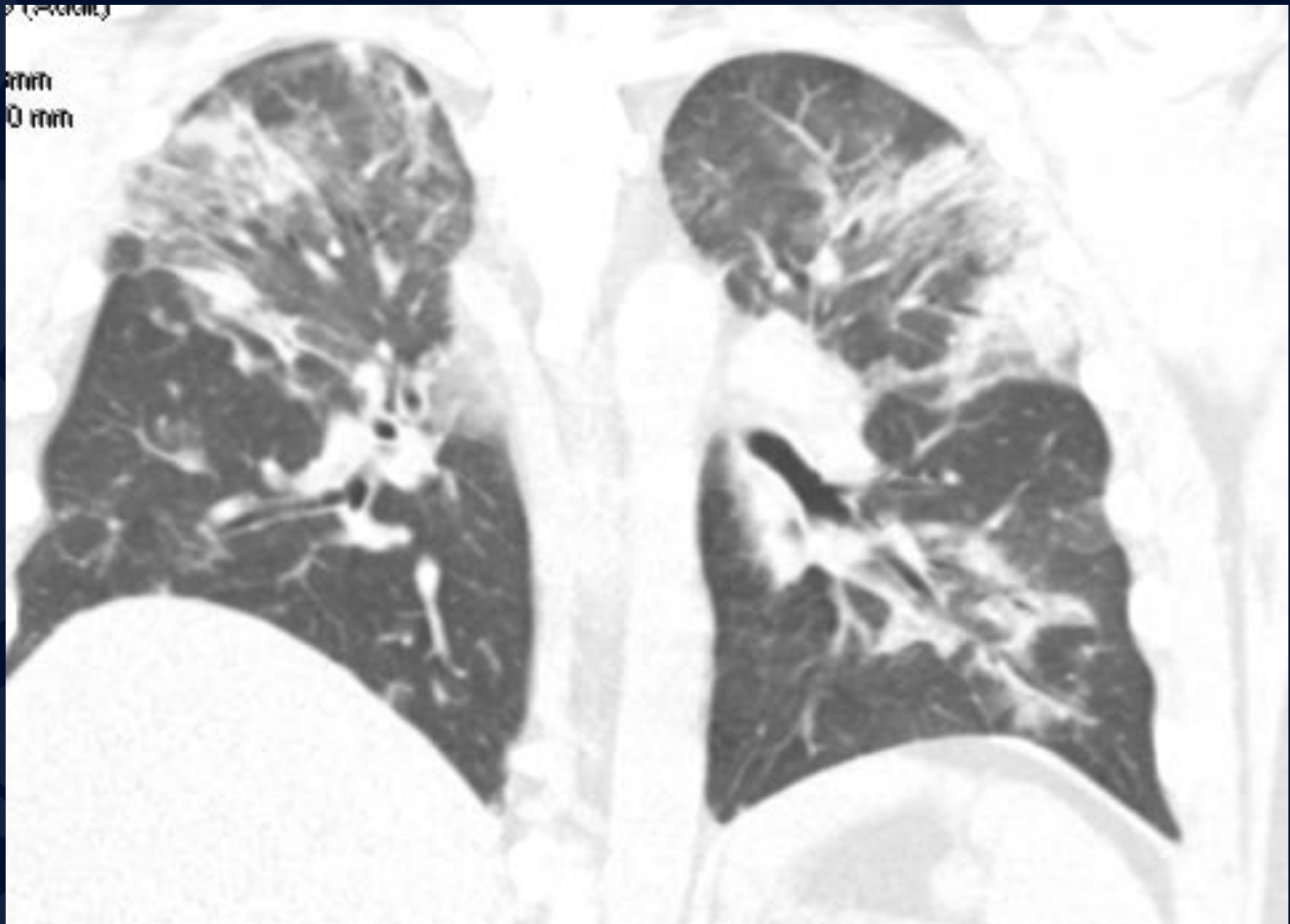
Rafael Vissepo, MD

Daniel Chen, MD

CT noncontrast

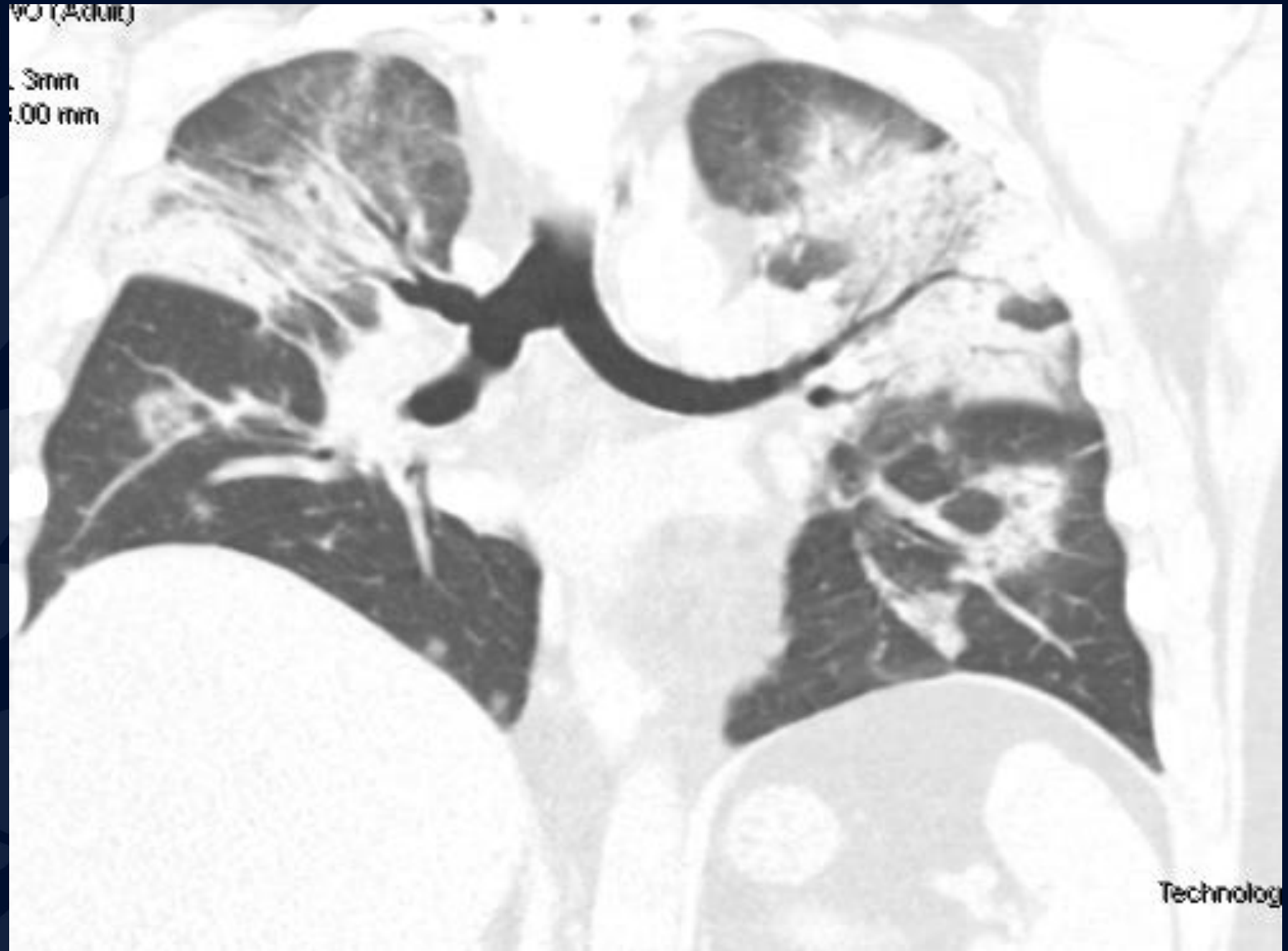






VO (Adult)

3mm
0.00 mm



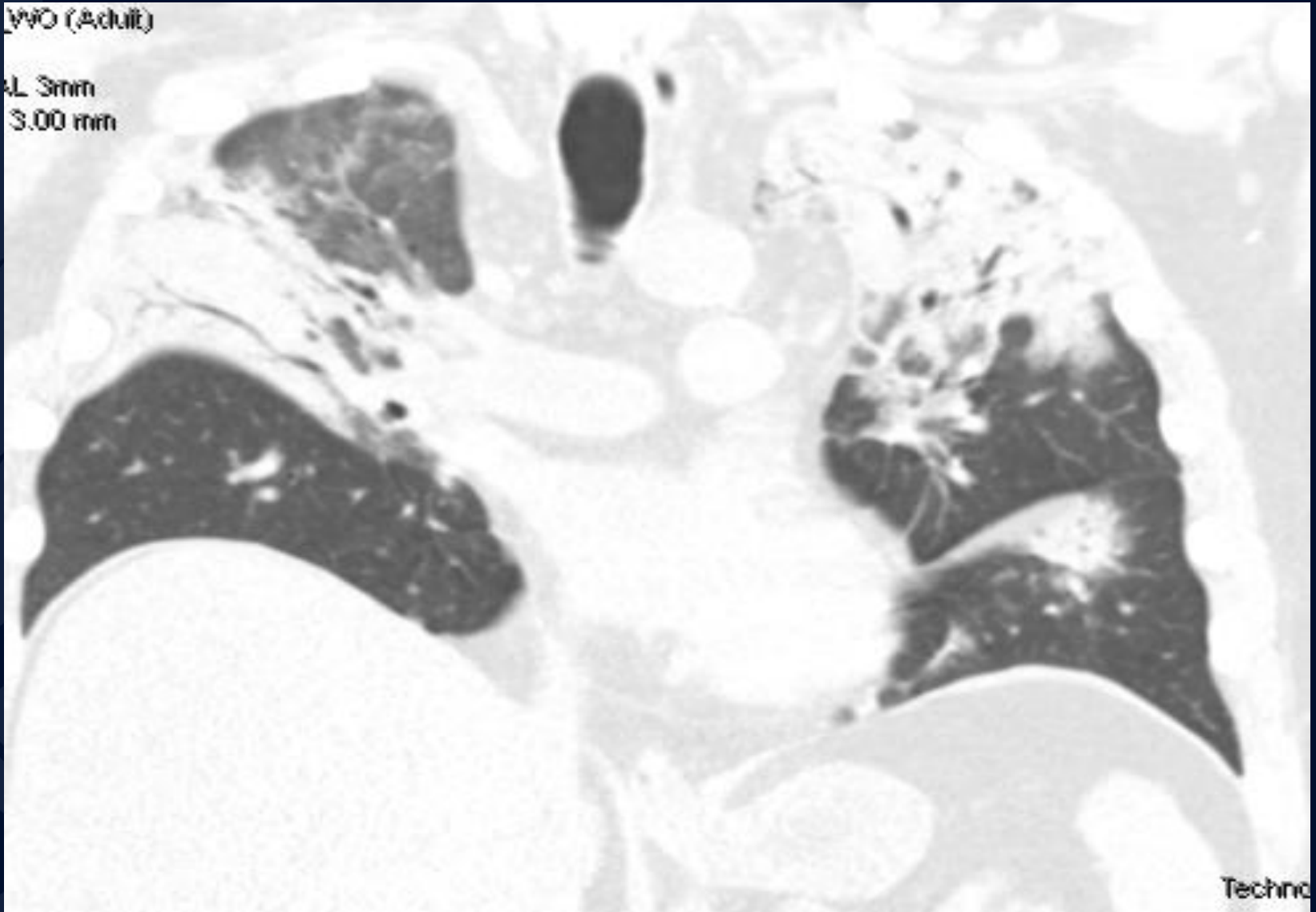
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UCONN
HEALTH

RADIOLOGY

WVO (Adult)

AL 3mm
3.00 mm



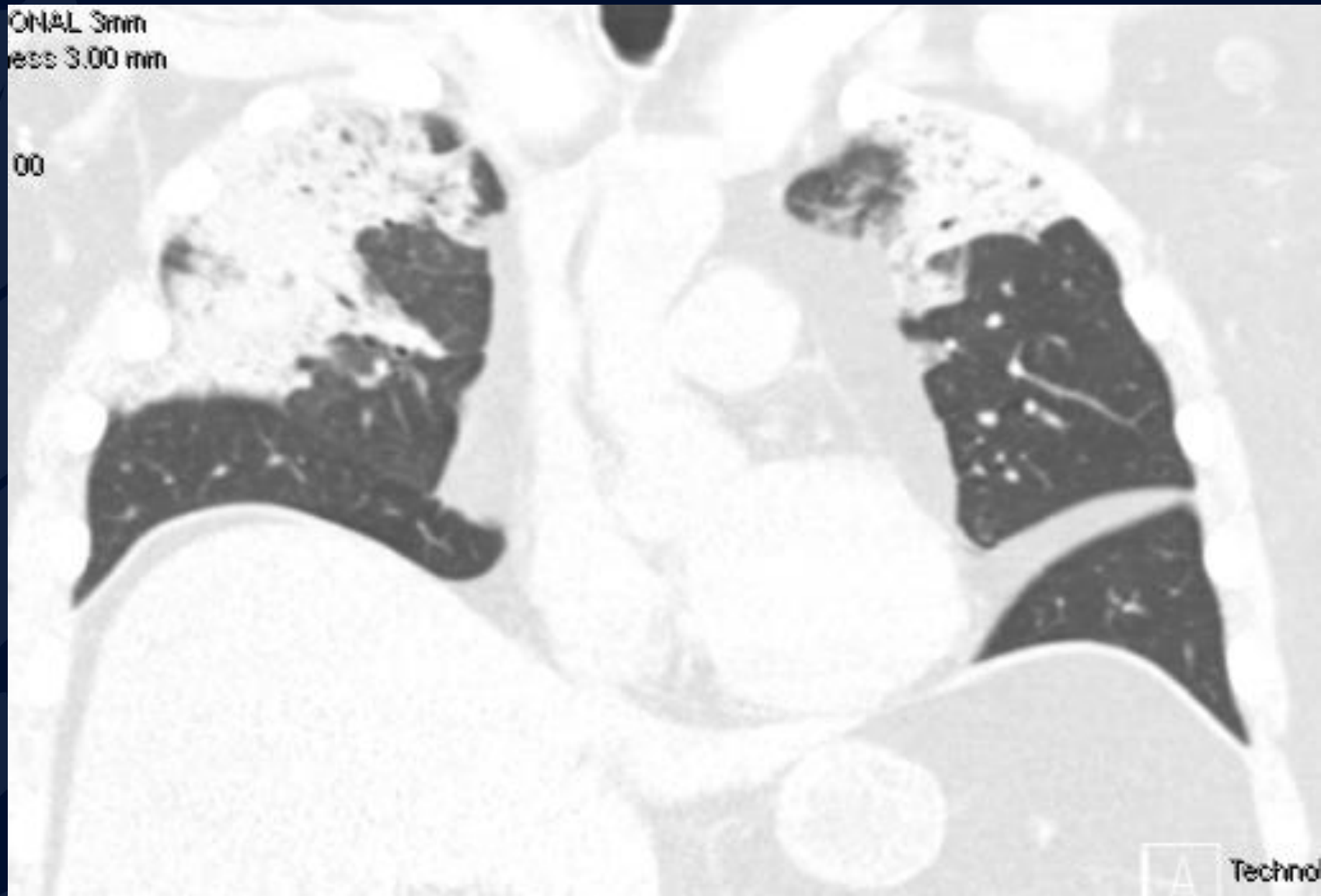
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ONAL 3mm
ess 3.00 mm

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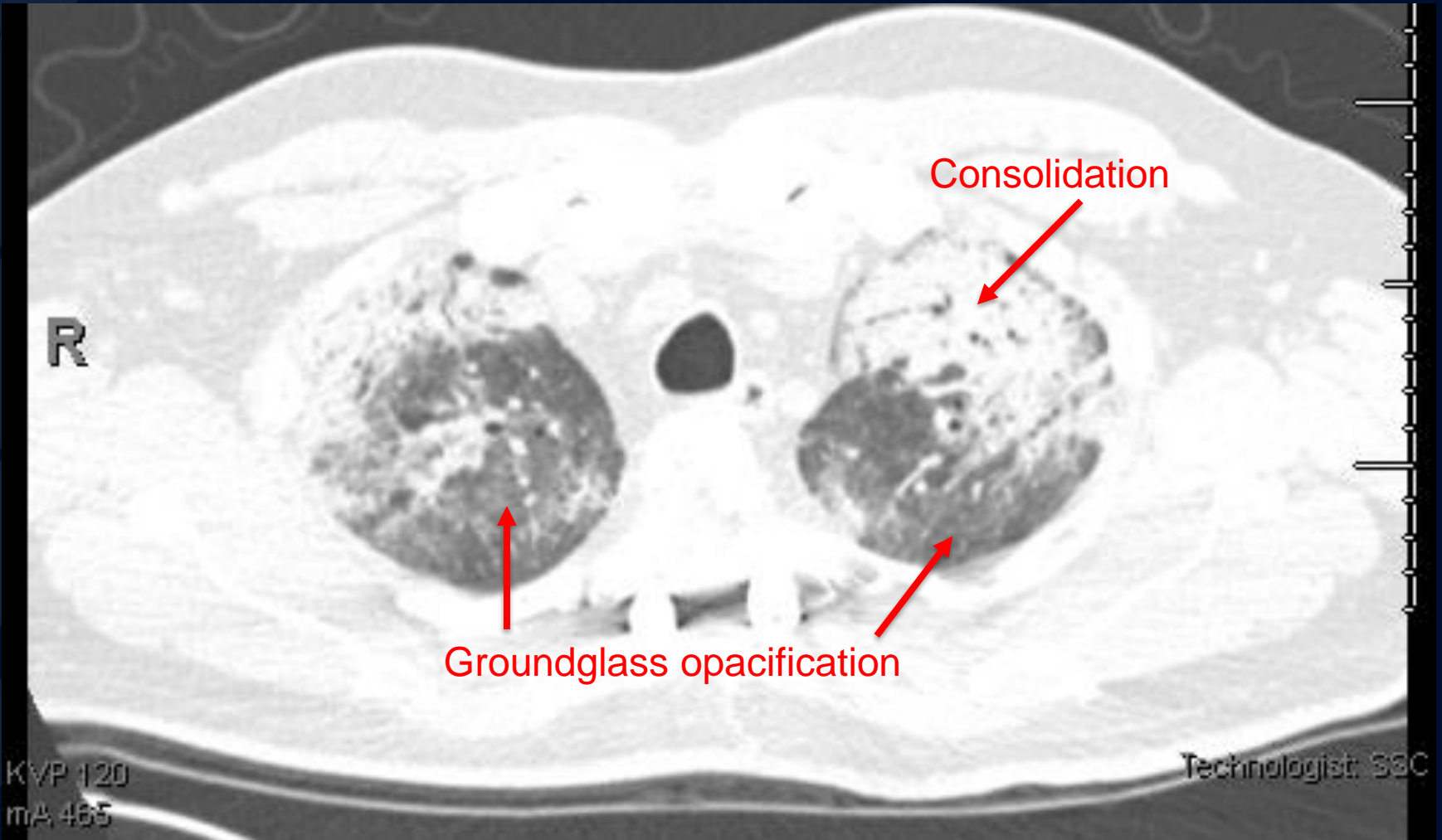
UConn
HEALTH

RADIOLOGY

A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. The leaf has a prominent central vein and several smaller veins branching off it. The leaf's edge is serrated.

?

Drug-induced lung disease

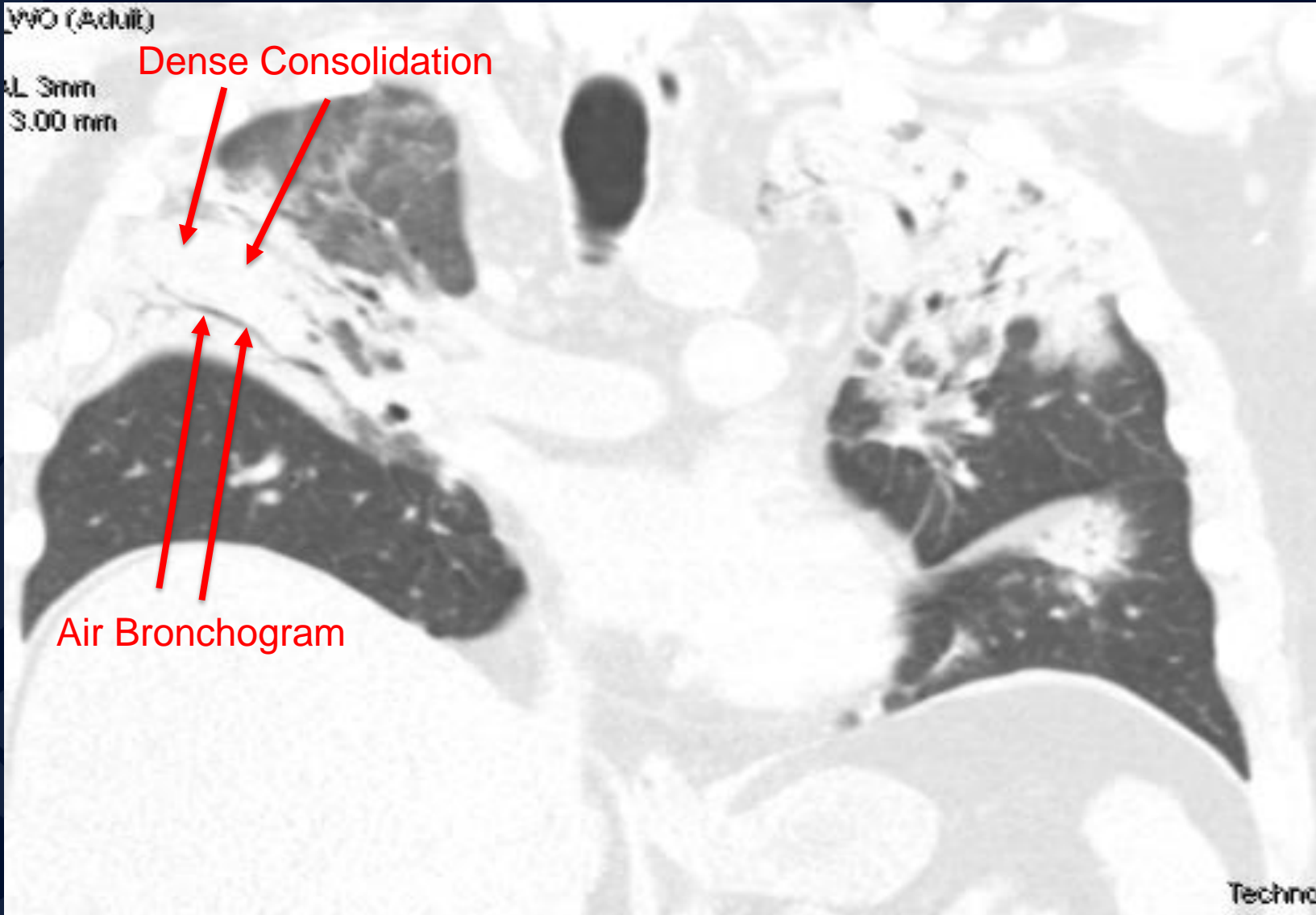


WVO (Adult)

AL 3mm
3.00 mm

Dense Consolidation

Air Bronchogram



Drug-Induced Lung Disease

- Antineoplastic drugs are a common cause of lung injury
- The pathogenesis of the disease depends on the type of chemotherapeutic agent
- Some of the mechanisms include:
 - Direct injury to the pneumocytes
 - Cytokine release leading to alveolar injury
 - Cell-mediated injury due to lymphocyte activation.
- Common drugs causing lung injury include:
 - Bleomycin
 - Cyclophosphamide
 - Methotrexate
 - Gemcitabine
 - Vinblastine

Ipilimumab Pneumonitis

- Ipilimumab
 - Anti - cytotoxic T-lymphocyte antigen 4 (CTLA-4) leading to inhibition of negative regulators of T-cells and increasing antitumor immune activity.
- Multiple case reports of pneumonitis secondary to ipilimumab use. Typical onset 8-14 weeks after initiation
 - Cases with cryptogenic organizing pneumonia (COP), nonspecific interstitial pneumonia (NSIP), etc.

Management

- Discontinuation of immunotherapy agent
- Consider glucocorticoids based on patient presentation and severity of disease
- If infection suspected, empirical antimicrobials may be initiated
- Supportive therapy:
 - Bronchodilators
 - Oxygen

References

1. Chuzi, S., Tavora, F., Cruz, M., Costa, R., Chae, Y. K., Carneiro, B. A., & Giles, F. J. (2017). Clinical features, diagnostic challenges, and management strategies in checkpoint inhibitor-related pneumonitis. *Cancer management and research*, 9, 207-213. doi:10.2147/CMAR.S136818
2. Koelzer VH, Rothschild SI, Zihler D, et al. Systemic inflammation in a melanoma patient treated with immune checkpoint inhibitors—an autopsy study. *J Immunother Cancer*. 2016;4:13.
3. Friedman CF, Proverbs-Singh TA, Postow MA. Treatment of the immune-related adverse effects of immune checkpoint inhibitors: a review. *JAMA Oncol*. 2016;2(10):1346–1353.