

An atypical presentation of Signet-Ring Cell Adenocarcinoma of the lung with pleural effusion – a case report

Gerasimos Lekatsas¹, Anastasios Koutsopoulos², Georgios Chrysofakis¹

¹Respiratory Medicine Department, Rethymno General Hospital, Crete, Greece

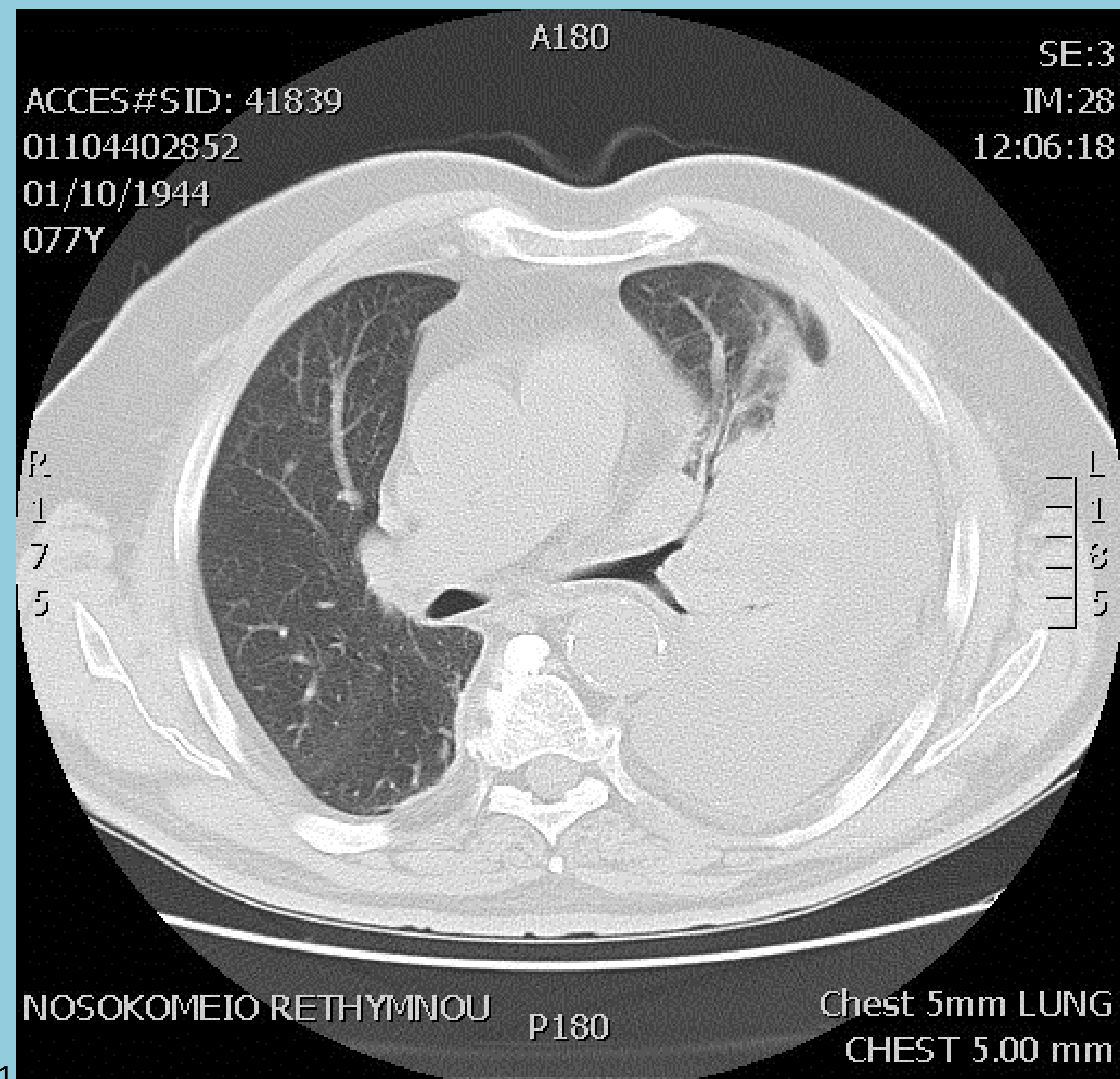
²Pathology Department, School of Medicine, University of Crete, Heraklion, Greece

Background:

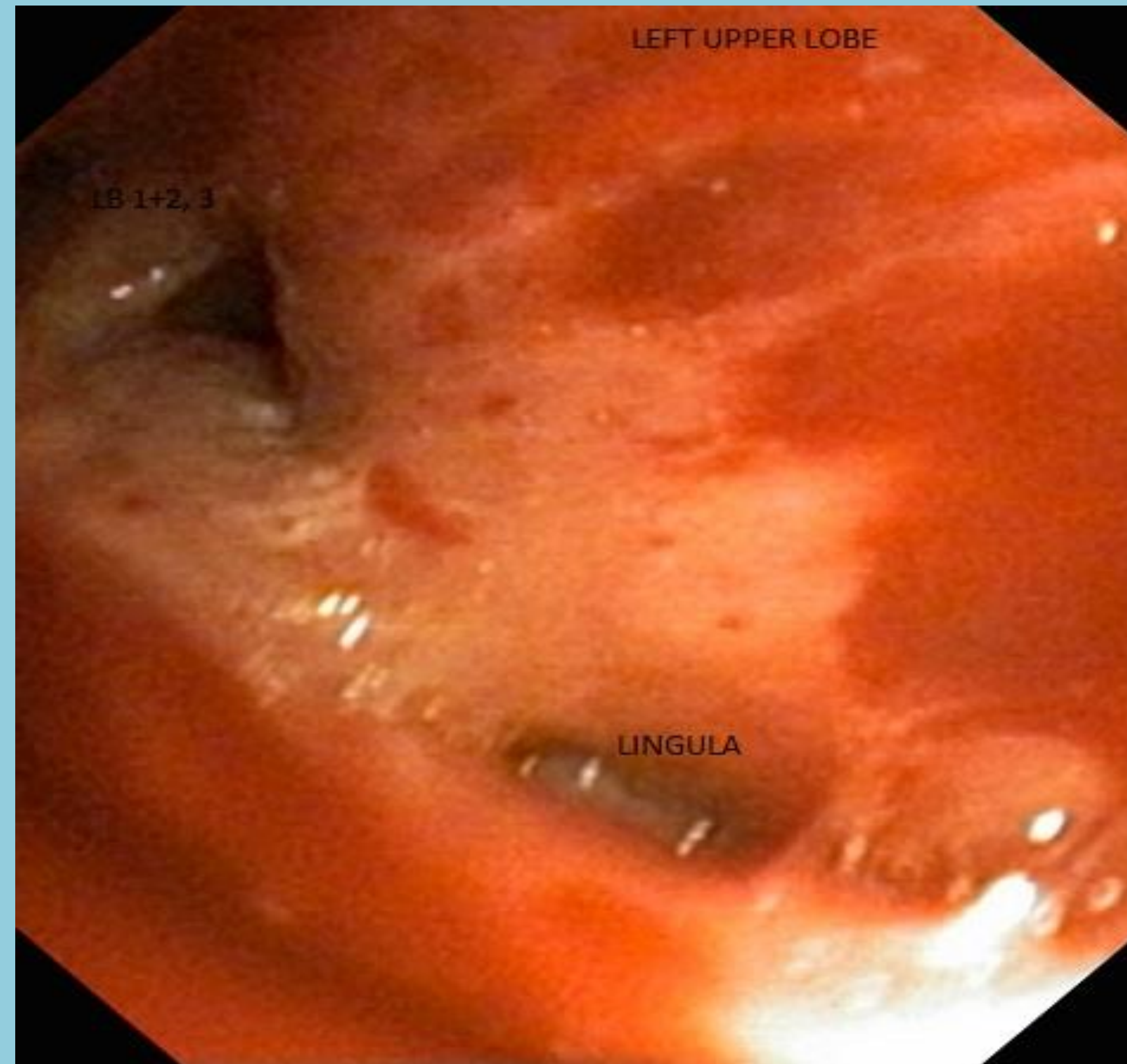
Signet-Ring Cell Adenocarcinoma (SRCA) is a subtype of adenocarcinoma occurring mostly in the gastrointestinal tract. Primary SRCA of other organs are rare, such as breast and lung (3,1%).

Case report:

- 77-year-old patient was referred to our hospital due to fever, non-productive cough in the last 2 days. He mentioned also progressively worsening dyspnea during the past month.
- Chest CT-scan revealed large unilateral pleural effusion on the left hemithorax with secondary compressive atelectasis and a consolidation pattern of the left lung (mostly in the upper lobe) (Picture 1).



Picture 1



Picture 2

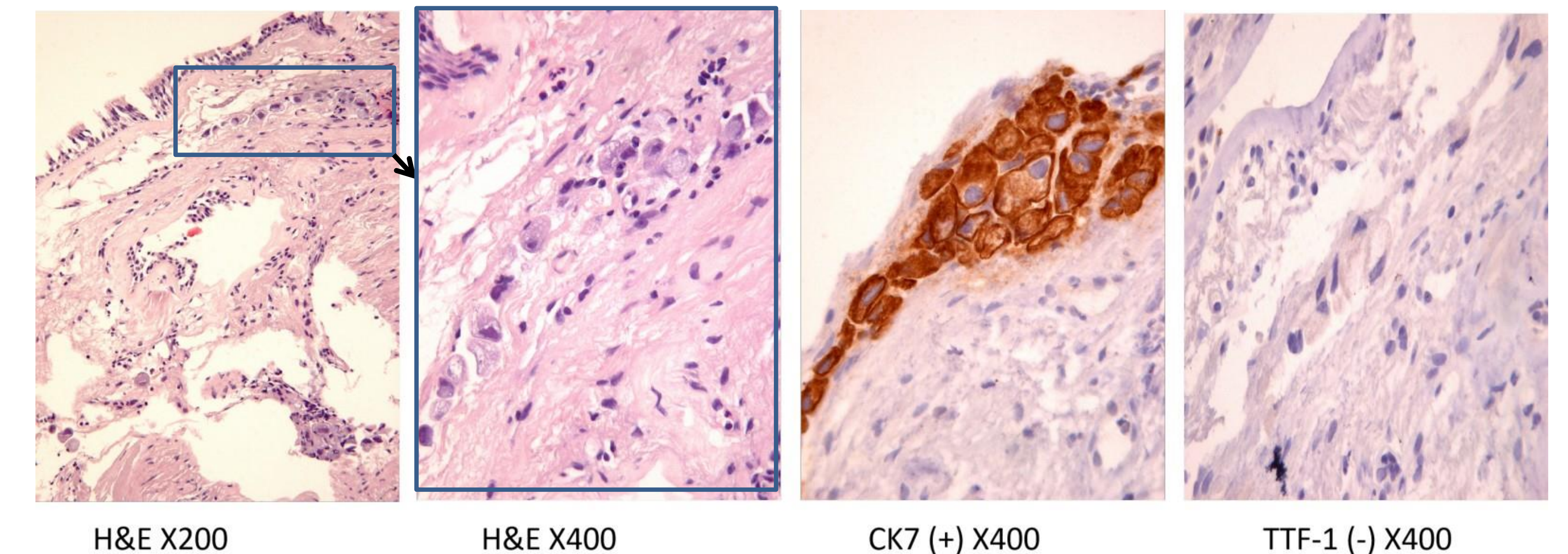


Picture 3

References:

1. O. Kocas et al., Primary signet ring cell carcinoma of the lung with cerebellar metastasis showing full response to cisplatin and docetaxel therapy, CROM, 2014
2. J.Kovacevic et al., Pulmonary Adenocarcinoma With Signet Ring Features: An Unusual Case of a Rare Disease, ACCP, 2017
3. M. Benesch and A.Mathieson, Epidemiology of Signet Ring Cell Adenocarcinomas, Cancers, 2020
4. Y.Mingguang et al., A case report of primary signet ring cell carcinoma of the lung: imaging study and literature review, TLCR, 2021

- Empiric antibiotic therapy for pneumonia was initiated. The diagnostic thoracentesis revealed an exudate with neutrophilic predominance. The cytologic examination of the fluid was positive for malignant undifferentiated cells, so further investigation was decided.
- The patient underwent flexible bronchoscopy which revealed diffuse inflammatory and oedematous bronchial mucosa of the left bronchial tree (Picture 2,3). Bronchial biopsies showed infiltration of the mucosa by malignant cells arranged as single cells or in small groups. The neoplastic cells showed positivity for CK7 whereas the markers TTF-1, p63, CK20 and CDX-2 were negative (Picture 4). The above findings were consistent with the diagnosis of SRCA.
- The patient died 2 months after the diagnosis, confirming the poor prognosis of this type of malignancy.



Picture 4

Conclusions:

- Primary lung SRCA can be a challenge to diagnose due to its rarity (0.14% to 1.9% of all lung cancers) and the heterogeneity of clinical manifestations.
- In our case, we performed an extensive diagnostic workup and we reached the diagnosis of a rare malignancy with atypical presentation (20% of pleural effusions with neutrophilic predominance are malignant).