Cryobiopsy in rare lung tumors : a case series

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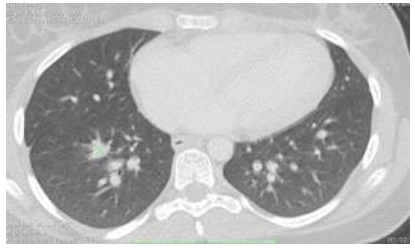
No conflict of interest to declare

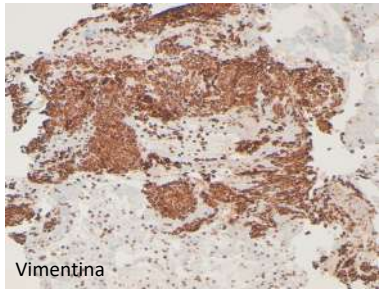
Introduction & Objective

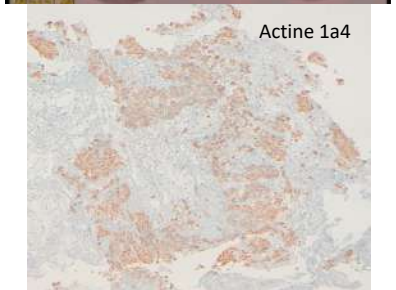
The purpose of this case series is to show that TBLC opens up unprecedented possibilities in the diagnosis of rare lung tumors,; diseases that in the current literature are reported to be diagnosed only by surgical lung biopsy.
Here we present 4 clinical cases referred to our center during the past two years for lung nodules suspected for rare malignancies: all underwent TBLC as the first attempt into the histological characterization of such lesions

Case 1

14 y.o. female with no previous condition with a PET positive lung nodules found as part of the work-up for multiple episode of hemoptisys. The histological result was a myofibroblastic tumor.

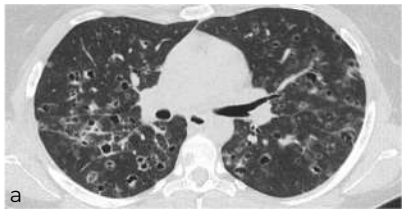


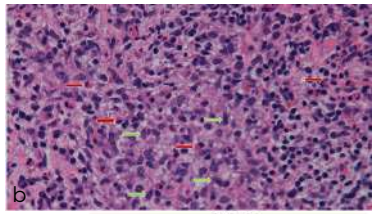




Case 2

30 y.o. female with no previous condition with multiple cystic lesions at chest-CT executed for dyspnea. The histological result was Langerhans cell histiocytosis, with mutation of the BRAF gene, and currently undergoing treatment with vemurafenib.

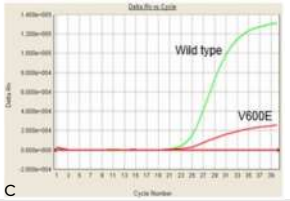




a) Chest CT-scan showing diffuse cistic lesions.

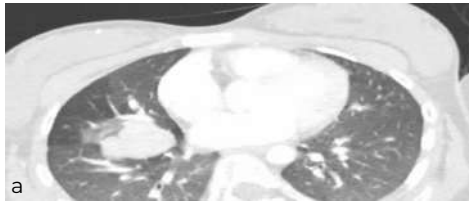
b)In red arrow: rich eosinophilic aggregates (red arrow).
In Green arrow langheran's cell.

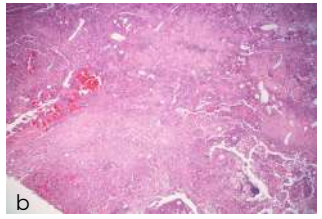
c) B-RAF V600E mutation



Case 3

18 y.o female with "congenital encephalopathy" and previous surgical removal of thigh skin melanoma, found as part of the radiological FU. The histological diagnosis was Pulmonary sclerosing pneumocytoma.

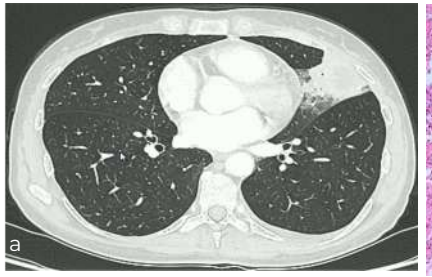


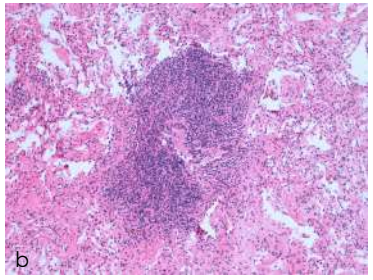


a) Right parenchymal lesion measuring 5x3x4 cm characterized by sharp and rather regular margins, slightly lobulated .
b) In this low magnification view the hemorrhagic, papillary and sclerosing patterns can be recognized

Case 4

43 y.o. woman affected by multiple sclerosis in stable neurological follow up and on Glatiramer acetate treatment. Referred to us for lung lesion at chest-ct executed for fever unresponsive to antibiotics.
The histological diagnosis was lymphoid hyperplasia.





a) Chest CT-scan showing left pulmonary lesion

b) Fragment TBLC showing Follicular lymphoid hyperplasia with peri-bronchial distribution

Results & Discussion

Histologycal diagnosis **was achieved in all cases without the need for further procedure.** The quality of the samples allowed the necessary genetic and biomarkers studies to be performed. One procedure was complicated by pneumothorax.

Rare lung diseases can now be easily diagnosed and molecularly charatcerized by cryobiopsy. Cryobiopsy is becoming a valid alternative to SLB for histopathological diagnosis in patients with rare lung tumors.