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Clinical Image

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# "All that Glitters is not Gold": A Challenging Diagnosis and Management of a Pulmonary Consolidation in a Liver Transplant Recipient

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## Clinical Image

A 73-year-old male, who had undergone liver transplantation in October 2022 for advanced liver disease secondary to erythropoietic protoporphyria, was hospitalized on August 29th, 2023, for fever, dyspnea and increased inflammatory markers (WBC 14 420/mm$^3$, C-reactive protein 21 mg/mL). Blood tests at admission included AST 20 U/L, ALT 10 U/L, GGT 40 U/L, ALP 178 U/L, total bilirubin 0.7 mg/dL, albumin 3.2 g/dL, INR 5.3 (on Warfarin), total proteins 5.9 g/dL and pseudocholinesterase 3015 U/L, FK 506 4 ug/L. A chest x-ray demonstrated a pulmonary consolidation in the left upper lobe **(Figure 1A)**. Promptly, oxygen therapy was started, and blood cultures were taken (which resulted negative after 5 days). Piperacillin/Tazobactam 4.5 g 4 times/day was chosen empirically in the suspect of bacterial pneumonia. Tacrolimus was reduced from 1 mg bid to 0.5 mg bid and Mycophenolate Mofetil (MMF) was initially reduced from 500 mg to 250 mg bid and then stopped. Azithromycin 500 mg/day was added few days after to cover also atypical pathogens **[1]**.

A chest and maxillo-facial CT scan, performed on August 31st to rule out invasive fungal infection, showed an extensive consolidation in the left upper lobe, with internal colliquation and peripheral rim

enhancement (maximum diameter of 82 mm; **Figure 1B and C**). Thus, Azithromycin was switched to Fosfomycin 24 g/day to better penetrate the colliquated tissues. The subsequent bronchoalveolar lavage resulted negative for any bacterial, viral or fungal pathogen.

A second Chest CT scan performed on September 12$^{th}$ showed a slight increase of the consolidation extent (up to 90 mm), despite the patient being now pauci-symptomatic, suggesting the hypothesis of an underlying malignancy. Therefore, a PET/CT scan was performed on September 14$^{th}$, revealing an increased uptake at the level of the pulmonary consolidation (SUV max 16.5, **Figure 1D**) highly suspected for oncological disease. Patient underwent subsequent CT-guided pulmonary biopsy, which resulted negative for neoplasms. After discharge and a total of 6 weeks of intravenous antibiotic therapy, the patient underwent a close clinical and radiological follow up and repeated Chest CT scan (October 26$^{th}$), that showed clearing of the left upper lobe consolidation. A further Chest CT imaging was repeated at the end of February, 2024, revealing a complete resolution of pneumonia **(Figure 2A and B)**.

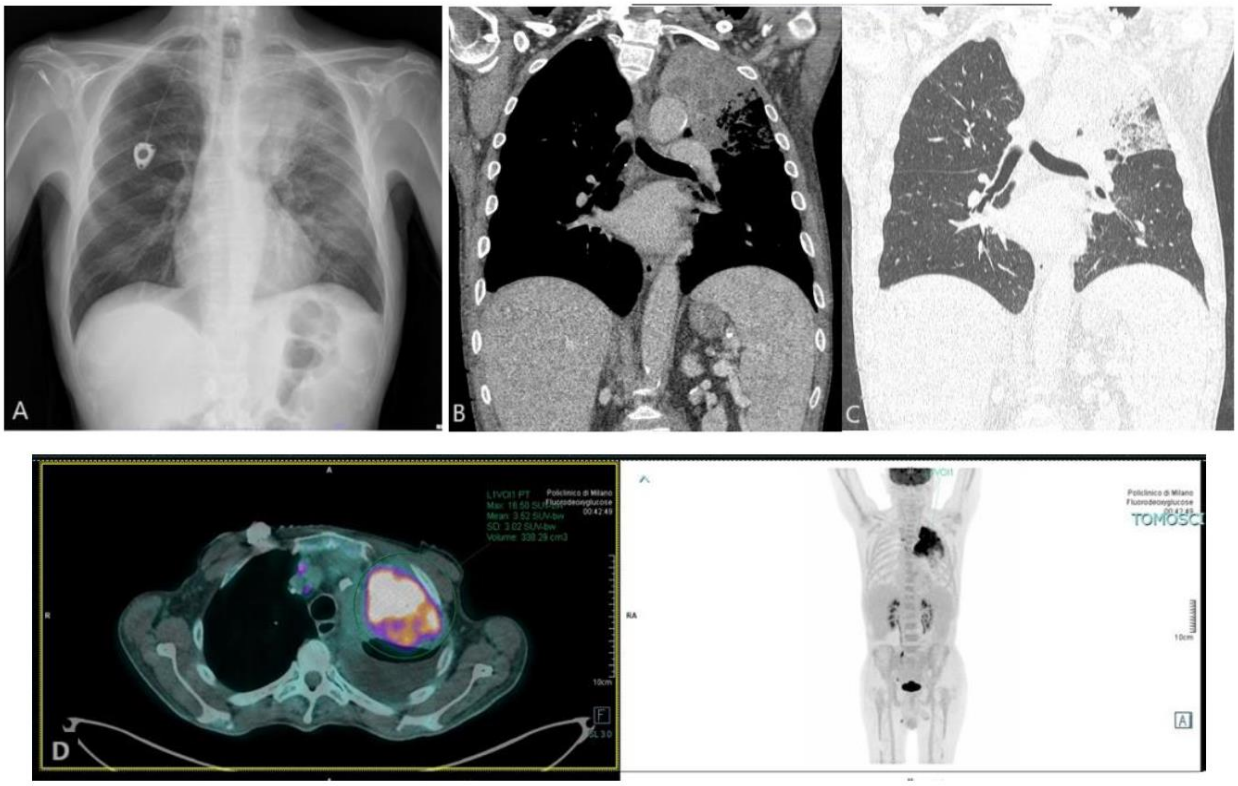


**Figure 1:** A) Chest X-ray (PA view) at the admission showing an extensive left upper lobe consolidation B-C) Chest CT scan, mediastinal (B) and lung window (C), with intravenous contrast medium performed on August 31$^{st}$, demonstrating a parenchymal consolidation in the left upper lobe, with multiple areas of internal colliquation and peripheral rim enhancement D) PET/CT scan performed on September 14$^{th}$ revealing an increased uptake at the level of the pulmonary consolidation (SUV max 16.5).

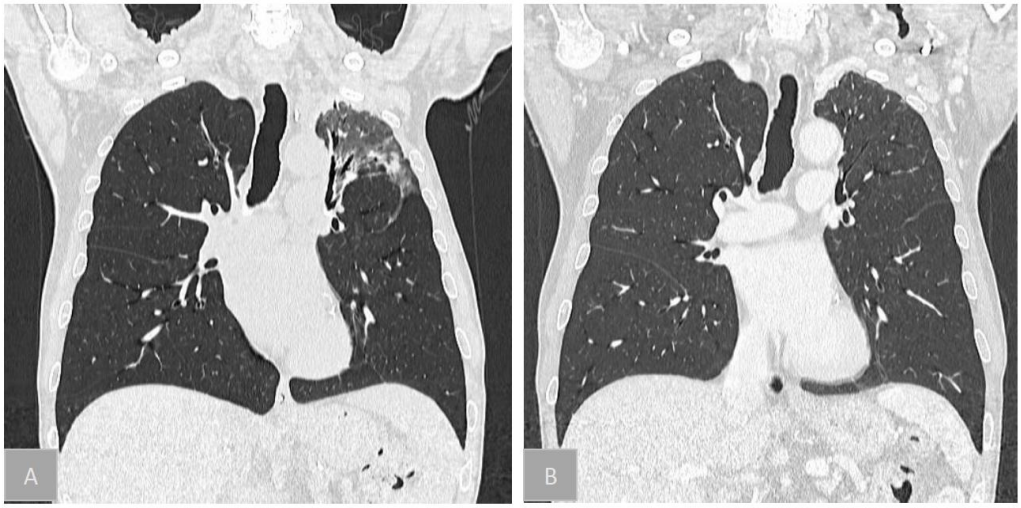


**Figure 2: A)** October 26th Chest CT scan (lung window), showing a clearing left upper lobe with marked decreased in extension of pulmonary consolidation 1 B) 20th February 2024 Chest CT scan (lung window) showing complete resolution of pneumonia.

Provided that complete recovery of pneumonia was lately obtained, the patient showed a progressive rising of liver function tests (AST x 2.5 UNL, ALT x 3.5 UNL, GGT x 3 UNL, ALP x 2 UNL) which seemed to be related to the previous reduction of immunosuppressive therapy (Tacrolimus without MMF). Therefore, a prompt return to a combined immunosuppression regimen was mandatory (Tacrolimus plus MMF), leading to a slowly normalization of liver function tests over a few months.

## References

1. Shepshelovich D, Tau N, Green H, et al. Immunosuppression reduction in liver and kidney transplant recipients with suspected bacterial infection: A multinational survey. Transpl Infect Dis. 2019;21(5):e13134.

## Citation of this Article

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