The therapeutic potential of inhaled-GM-CSF in severe a-PAP

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Key words:
- Severe a-PAP
- Treatment
- Inhaled-GM-CSF

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Autoantibodies against Granulocyte-Macrophage-Colony-Stimulating-factor (GM-CSF) disrupt signaling in alveolar macrophages to effectively remove surfactant from the alveoli and lead to autoimmune pulmonary alveolar proteinosis (aPAP). A 39-year-old woman diagnosed with a-PAP was referred to us for further evaluation and treatment initiation with inhaled (i)-GM-CSF[1,2]. SaO_2 on room air was 70%, DLCO 20% predicted and anti-GM-CSF titer 71.5 μg/ml (normal <3). High-resolution computerized tomography (HRCT) of the chest demonstrated extensive lung parenchyma involvement with ground-glass opacity associated with thickened interlobular lines (cobble stone or crazy paving pattern) differentiating distinctly a-PAP affected lung from non-involved tissue (Figure 1A). Pending the approval of the National-Sanitary-System for the off-label i-GM-CSF administration,the patient was treated every other 4 days with drug (250μg) disponed by other Greek patients, not yet expired. Despite immediate treatment initiation, the patient further deteriorated with high oxygen needs. We re-scheduled treatment to daily i-GM-CSF and plasmapheresis, and considered transfer to abroad for whole lung lavage. The patient gradually recovered with HRCT of the chest showing a clear improvement of ground glass opacities leaving no traction bronchiectasis or other signs of fibrosis (Figure 1B). A few months later she was in complete remission and we currently de-escalate i-GM-CSF.

In conclusion, as we are moving ahead from whole lung lavage treatment into the era of i-GM-CSF for aPAP, clinical paradigm may insight fully complement the studies, eagerly needed but hardly feasible, evaluating i-GM-CSF time and dose responses to refine the management of severe disease[3-5].

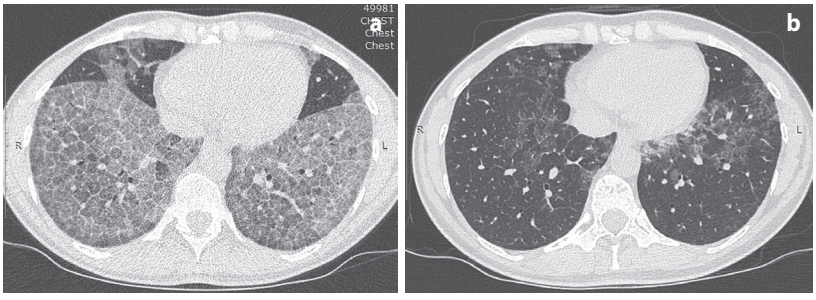

FIGURE 1.

Statement

This is to certify that the images have not been previously published and that the patient has provided written permission to publish the case.

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