Session PO2-PULM - POSTER SESSION 2: Pulmonology (Non-CME)

1047 / Board #253 - Use of Dupilumab in Asthma Relapse After Lung Transplant

April 11, 2024, 4:30 PM - 5:30 PM | Poster Hall

Topic:
LUNG -> LUNG-CASE-Post-Transplant Complications (Other, Non-Infectious Non-Immune)

Presenter
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Disclosures
A.Buscemi: n/a. **L.Morlacchi:** None. **V.Rossetti:** n/a. **M.Cavallini:** n/a. **A.Palleschi:** None. **L.Rosso:** None. **M.Mantero:** n/a. **M.Nosotti:** n/a. **F.Blasi:** n/a.

Abstract or Presentation Description

Introduction: Dupilumab is a fully human monoclonal antibody against the IL4 receptor alpha subunit and blocks the action of both IL4 and IL13. It has shown great potential in the treatment of severe eosinophilic asthma, as well as in other conditions such as nasal polyposis. However, its use in lung transplantation (LuTx) has not been described yet. We present the use of dupilumab in a LuTx recipient, who suffered an asthma relapse shortly after surgery.

Case Report A 37-year-old man underwent bilateral LuTx in April 2023 for sarcoidosis. His past medical history included obesity/overweight and severe asthma being successfully treated with dupilumab; this biological drug was discontinued after transplant surgery. After discharge, in May 2023, he started complaining of progressive dyspnoea on exertion, which then complicated with cough, sputum and a significant FEV1 decrease; no fever was reported. After an initial course of oral antibiotics and steroid taper on, with subsequent temporary benefit, on May 29th he was hospitalized because of acute respiratory failure; he was diagnosed with massive embolism with right upper pulmonary vein obstruction and anticoagulant therapy was promptly initiated. However, despite initial improvement, his gas exchange suddenly started deteriorating again, with severe wheezing occurring: steroid dosage was increased and he was adapted to non-invasive ventilation. Several investigations were performed and after excluding other underlying clinical conditions (especially rejection and/or infection), we concluded for high suspicion of asthma flare-up. Therefore, based on the benefit-risk assessment, we restarted the subcutaneous administration of dupilumab (300 mg once every two weeks after an initial loading dose of 600 mg) in June 2023. After discharge, we noticed a progressive functional recovery, with normal gas exchange on room air both at rest and on exertion; therapy was well-tolerated and no side effects or other respiratory exacerbations were reported.

Summary Although dupilumab is considered to be both safe and non-immunosuppressive, given its immunomodulatory nature, there might be concerns when it is used for immunosuppressed patients. To our knowledge, our case is the first to report the use of dupilumab in the treatment of an asthma relapse in a LuTx recipient. Further studies are needed to assess the efficacy and the safety of biological treatments in these patients.