A Case of Delayed-onset Rituximab induced Interstitial Lung Disease in Follicular lymphoma

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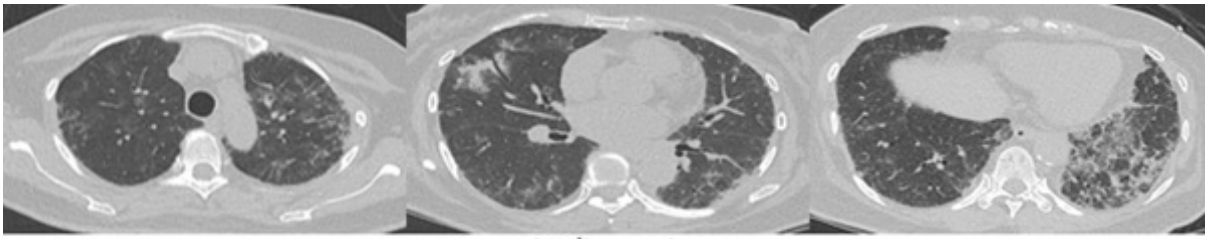
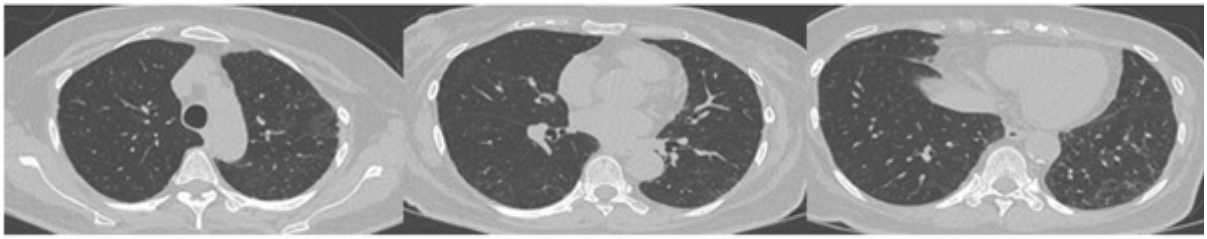
Background: Rituximab(RTX) is a chimeric monoclonal antibody targeting CD-20 antigen. The incidence of RTX-induced interstitial lung disease(RTX-ILD) is not well known, but previous reports suggest a low rate(0.01-0.03%), and usually appear 3 months within the first RTX infusion with a mean cumulative dosage of 1, 600 mg/m^2. We report a case of delayed onset interstitial pneumonia(IP) secondary to RTX use for follicular lymphoma(FL).

Case Presentation: A 70-year-old woman had a history of malignant FL, stage III, diagnosed partial remission after treatment with 6 times of bendamustine+RTX regimen followed by RTX-maintenance therapy. 11 months after first RTX infusion, when a cumulative dose of RTX was 3, 862mg, she visited emergency room with complaint of dyspnea and chest computed tomography(CT) with diffuse GGO in both subpleural area and lower lobes(probability of IP), then referred to pulmonary department for further evaluation. For differential diagnosis, she was performed bronchoalveolar lavage(BAL), autoimmune laboratory test to distinguish opportunistic infection or ILD(drug induced/autoimmune related). BAL fluid showed lymphocytosis(54%), with CD4/CD8 T cell ratio 5.49:1, negative for respiratory virus, pneumocystis carinii., fungi as well as no malignant cells in cytology. Autoimmune markers were within normal limits, through rheumatologic consultation, she was confirmed no systemic evidence of criteria for connective tissue disease related ILD. The pulmonary function test(PFT) showed a restrictive pattern, forced vital capacity(FVC) 63%, and diffusing capacity(DLCo) 31%, respectively. Finally, she was diagnosed as RTX-ILD through differential diagnosis and treated with methylprednisolone(1mg/kg injection then rapid tapering for 10 weeks). After termination of steroid, CT imaging was improved to disappeared consolidation and interstitial thickening, and PFT result was improved to FVC 80%/DLCo 65% without recurrence of ILD for 27 weeks.

Conclusion: In this case, the patient has ILD pattern at CT and PFT after use of RTX(around a year). So we suggest that the patient who do RTX therapy should need for long term evaluation due to risk of delayed RTX-ILD.



At diagnosis



7 weeks later