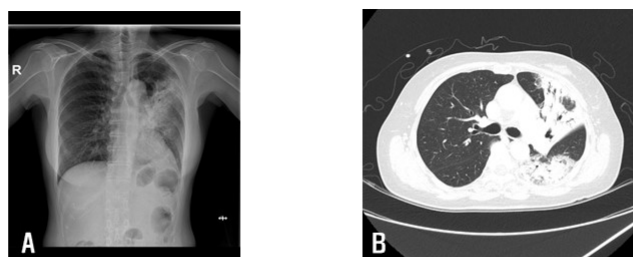


## A case of Radiation triggered organizing pneumonia (RIOP) developed on periradiation area

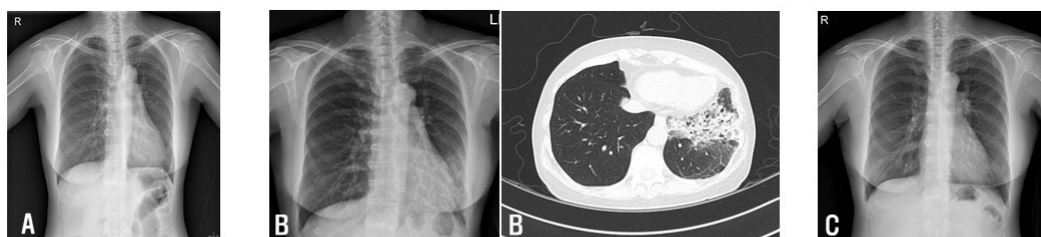
여의도성모병원 호흡기내과<sup>1</sup>

최범근<sup>1</sup>, \*임정욱<sup>1</sup>

Radiation-induced organizing pneumonia (RIOP) is an inflammatory lung disease that is occasionally observed after radiotherapy. It is type of organizing pneumonia that is characterized by infiltrates outside the radiation field. RIOP is often migratory, and should be distinguished from radiation pneumonitis. We would like to present an interesting case of RIOP diagnosed after 6 months of radiation therapy. A 64-year-old female was diagnosed with left breast cancer and underwent breast conserving surgery on July 2020. After surgery, she was treated with tamoxifen and adjuvant intensity modulated radiation therapy for 1 month. She visited ER with fever and upper respiratory symptoms on 8 February 2021. Initial impression was radiation induced pneumonitis due to proximity of infiltrates to previously irradiated area. Respiratory symptoms did not improve, and bronchoalveolar lavage (BAL) and transbronchial lung biopsy (TBLB) were performed. No respiratory pathogen was identified, and biopsy results showed inflammatory cell infiltration in the interstitium. Under the impression of organizing pneumonia, steroid therapy(methylprednisolone 50mg qd IV) was initiated. After 4 days, the patient's symptom improved, and prednisolone 50mg(PO) per day was prescribed, which was gradually tapered over 8 weeks. However new lung infiltration reappeared on chest x-ray 3 weeks after steroid discontinuation. Steroid treatment (methylprednisolone 1mg/Kg IV) was reinitiated, and patient's symptom improved after 3 days, with complete resolution of pulmonary infiltration after 4 months. From present case, we should focus on the process of excluding other diseases of similar clinical manifestations and importance of final pathologic diagnosis. RIOP cannot detectable in early phase, because the damage has already been disseminated before the manifestations of symptoms, so the identification of the disease could be delayed. Physicians confronting patient having respiratory symptoms with a history of radiotherapy within 12 months should consider possibility of RIOP.



• Figure 1. A) Chest x-ray showing patchy infiltration in left upper lobe. B) Computed Tomography of the chest showing multifocal consolidation and GGOs in left upper and lower lobe.



• Figure 2. A) Chest X-ray following 8 weeks of steroid treatment showing near complete resolution of pulmonary infiltrates. B) Chest X-ray after 3 weeks off prednisolone showing new infiltration in the left lower lobe. C) Chest X-ray following 4 months of re-steroid treatment showing complete resolution for pulmonary infiltrate.