中文題目：腦部腫瘤放射線治療後引起之肺部及肝臟轉移病灶消長—Abscopal effect
英文題目：Simultaneous Regression of a Lung Mass and Progression of Liver Masses after Receiving Whole Brain Irradiation – A Diverse Abscopal Effect
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Introduction:
Abscopal effect is a out-of-target anti-cancer phenomenon caused by localized radiotherapy. Activation of immune-response, oxidative stress, cytokine release that propagated inflammation and antigen-specific T-cell reaction is assumed as mechanism of Abscopal effect during devoted studies in past decades. In, addition, there' raction and radiation particle for inducing Abscopal effect, limitation of brain-blood-barrier, etc. We reviewed studies about Abscopal effect and shared our experience about s growing evidence that Abscopal effect may involve in immunotherapy as treatment modality. However, there's still lot's of unsolved puzzle about Abscopal effect, like diverse response to different metastatic site even in the same organism, appropriate dose, fraction and particle for inducing Abscopal effect, etc. We reviewed studies of Abscopal effect in the past decades and make a summary. We also shared our experience about diverse Abscopal effect on lung and liver metastasis of a case of colon-rectal cancer with brain metastasis.

Case report:
This 74-year-old woman presented to our emergency room due to unsteady gait and dyspnea on exertion for days in December 2016. A huge mass involving the left main bronchus with total collapse of the left lung was presented on chest computed tomograghy. Bronchoscopy showed a huge mass occluding the left main bronchus, and metastatic adenocarcinoma from colorectal origin impressed pathologically. Brain MRI revealed multiple metastatic lesion in the grey-white matter junction of bilateral fronto-parietal lobes and left lentiform nucleus. In order to relieve her symptoms, she received emergency whole brain irradiation with 30 Gy in 10 fractions. No other systemic therapy was delivered under patient and family request concerning about patient's comfort and Hospice care introduced. Two months later, she was taken to our emergency department for right community-acquired pneumonia. Surprisingly, chest CT disclosed marked regression of left lung mass and endo-bronchial lesion, though progression of liver metastasis noted. Abscopal effect on the pulmonary tumor burden induced by brain whole brain irradiation was impressed according to clinical course.

Conclusion:
We demonstrate a case of diverse abscopal effect between lung and liver metastasis lesion on a patient with colon-rectal cancer with brain metastasis. Marked regression of pulmonary lesion was noted 2months later after brain radiotherapy though progression in liver metastasis presented on CT image. In our patient, whole brain irradiation may have induced the release of inflammatory mediators from the tumor cells in her brain which crossed the blood–brain barrier (BBB) and then triggered a tumoricidal immune response, finally attacking the distant lung tumor. To our

knowledge, this is the first care presenting with abscopal effect crossing blood-brain-barrier. This discovery may influent further application and research of abscopal effect and thriving immunotherapy.