Gravity-dependent Opacity in Pure Influenza Viral Pneumonia

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On computed tomography, ground-glass opacity (GGO) appears as a hazy, increased opacity in the lungs with the preservation of the bronchial and vascular margins. GGO is less opaque than consolidation, in which the bronchovascular margins are obscured (1).

We believe that GGO and consolidation are successive events depending on the intensity of the pathological changes. Using true ground-glass on Ryukyu dyed cloth, although patterns of staining were observed on the upper portion (such as GGO), patterns could not be seen on the lower portion (such as consolidation) (Picture 1). Furthermore, a definite margin between GGO and consolidation could not be determined.

In 2011, we experienced some cases of acute influenza viral pneumonia that showed successive changes from GGO to consolidation (Picture 2A-D). Gravity-dependent opacity (2) was demonstrated in these cases, thus suggesting that a cytokine storm (closely related to the blood flow) plays an

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important role in the pathogenesis of pure influenza viral pneumonia caused by the pandemic H1N1 virus.

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References
